



USAID
FROM THE AMERICAN PEOPLE



WINROCK
INTERNATIONAL
GEORGIA

ENHANCING CAPACITY FOR LOW EMISSION DEVELOPMENT STRATEGIES (EC-LEDS) CLEAN ENERGY PROGRAM

COOPERATIVE AGREEMENT NO. 114-A-13-00008

YEAR TWO ANNUAL PROGRESS REPORT

OCTOBER 1, 2014 – SEPTEMBER 30, 2015



October 30, 2015

This publication was produced for review by the United States Agency for International Development. It was prepared by Winrock International under Cooperative Agreement No. 114-A-13-00008.

ENHANCING CAPACITY FOR LOW EMISSION DEVELOPMENT STRATEGIES(EC-LEDs) CLEAN ENERGY PROGRAM

YEAR TWO ANNUAL PROGRESS REPORT

October 1, 2014– September 30, 2015

Submitted to: Nick Okreshidze, AOR

US Agency for International Development
USAID/Georgia

Submitted by: Inga Pkhaladze, COP

Winrock International - Georgia
EC-LEDs Program
7, I. Chavchavadze Avenue
Tbilisi, 0179, Georgia
+995 32 250 63 43
www.winrock.org

Cover Photo:

Photo 1: Two fair-goers reading promotional materials and learning about the benefits of energy efficiency for Georgia at the EC-LEDs booth for America Days 2015. America Days is a traveling exhibition of the US held by the US Embassy. (June 2 – 6, 2015)

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

TABLE OF CONTENTS

ACRONYMS.....	II
I. EXECUTIVE SUMMARY.....	I
II. YEAR TWO PROGRAM HIGHLIGHTS	I
A. FINALIZATION OF SUSTAINABLE ENERGY ACTION PLANS (SEAPS).....	I
B. MUNICIPAL INVENTORY, PROJECTION, AND MITIGATION PLANNING (MUNI-EIPMP)	I
C. BUSINESS AS USUAL (BAU)	I
D. GREEN BUILDING GEORGIA RATING SYSTEM	2
E. BUILDINGS' DISPLAY® LABELING.....	2
F. EMPOWERING THE NEXT GENERATION THROUGH OUTREACH	2
G. PUBLIC SERVICE ANNOUNCEMENTS SPREADING THE GOOD NEWS OF ENERGY EFFICIENCY	2
H. ENERGY EFFICIENCY FOR YOUTH AND PERSONS WITH DISABILITIES (PWD)	2
III. ACTIVITIES COMPLETED DURING YEAR TWO	2
A. COMPONENT 1: GEORGIAN MUNICIPAL ENERGY EFFICIENCY (GeMUNEE)	2
B. COMPONENT 2: GREEN BUILDING (GB) RATING AND CERTIFICATION SYSTEM.....	13
C. COMPONENT THREE: NATIONAL EC-LEDs WORKING GROUP AND ADVISORY ASSISTANCE	19
D. ENVIRONMENTAL PROTECTION ACTIVITIES	24
E. CROSS-CUTTING ACTIVITIES	25
F. PROJECT ADMINISTRATION	36
G. YEAR THREE WORK PLAN.....	38
H. DELIVERABLES AND PRODUCTS SUBMITTED DURING YEAR TWO.....	39
I. LESSONS LEARNED	41
IV. PROGRAM PROGRESS TOWARD INDICATORS.....	42
ANNEX 1: SUCCESS STORIES	74
ANNEX 2: MEDIA PLAN OF AIRING EC-LEDs EE PSAS ON NATIONAL TV CHANNELS.....	78
ANNEX 3: MEDIA COVERAGE REPORT (JANUARY, 2015-SEPTEMBER, 2015)	79

Acronyms

BAU	Business as usual
BEO	Bureau Environmental Officer
BREEAM	Building Research Establishment Environmental Assessment Method
CA	Condominium Associations
CE	Categorical exclusion
COM	Covenant of Mayors
COP	Chief of Party
DCA	Development Credit Authority
DCOP	Deputy Chief of Party
DWG	Decision Ware Group
EA	Environmental assessment
EC	European Commissions
EC-LEDs	Enhancing Capacity for Low Emission Development Strategies
EE	Energy efficiency
EEC	Energy Efficiency Center
EIPMP	Emission Inventory, Projection, and Mitigation Planning
EMMP	Environmental Monitoring and Mitigation Plan
EPI	Economic Prosperity Initiative
ERN	European Regional Network
EU	European Union
EWG	Expert Working Group
FFC	Fast Forward Communications
GB	Green building
GBCWG	Green Building Certification Working Group
GBCG	Green Building Council Georgia
GDP	Gross Domestic Product
GeMunee	Georgian Municipal Energy Efficiency
GHG	Greenhouse gases
GOG	Government of Georgia
HPEP	Hydropower Policy and Energy Planning
HQ	Head Quarters
ICMA	International Capital Market Association
IEE	Initial Environmental Examination
INRMW	Integrated Natural Resource Management in Watersheds of Georgia
LED	Low emission development
LEDs	Low Emission Development Strategy(ies)
MDF	Municipal Development Fund
MENRP	Ministry of Environment and Natural Resources Protection
MOE	Ministry of Energy
MOE-AD	Ministry of Energy Analytical Department
MRV	Monitoring, Reporting and Verification
Muni-EIPMP	Municipal Inventory, Projection and Mitigation Planning
NAMA	Nationally Appropriate Mitigation Actions
NATELI	New Applied Technology Efficiency and Lighting Initiative
NDC	Nationally Determined Contribution
NEO	New Economic Opportunities
NGO(s)	Non-Governmental Organization(s)

PEA	Programmatic Environmental Assessment
PMP	Performance Monitoring Plan
PPP	Public private partnerships
PSA	Public Service Announcement
PWD	People with Disabilities
RE	Renewable energy
RFA	Request for Applications
RFP	Request for Proposals
RS	Rating systems
RSERC	Regional Sustainable Energy Resource Centers
SC	Steering Committee
SDAP-Center	Sustainable Development and Policy Center
SEAP	Sustainable Energy Action Plan
SEO	Sustainable Energy Office
SC	Steering Committee
SS	Scoping statement
SUDeP	Sustainable Urban Demonstration Projects
SWG	Sub working group
TOR	Terms of Reference
UN	United Nations
USAID	United States Agency for International Development
USG	United States Government
WWF	World Wide Fund for Nature

I. EXECUTIVE SUMMARY

The United States Agency for International Development (USAID) Georgia's Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program is a four-year (October 2013 – September 2017) effort which supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy, which focuses on three activities:

- 1) Georgian Municipal Energy Efficiency (GeMunee);
- 2) Green Building (GB) Rating and Certification System; and
- 3) National EC-LEDS Working Group and Advisory Assistance.

The EC-LEDS Clean Energy Program, funded by USAID/Caucasus, is being implemented by Winrock International (WI). The EC-LEDS Clean Energy Program supports increased climate change mitigation by building municipal capacity in climate change mitigation measures and raising public awareness; increasing private sector investment in energy efficiency (EE) and Green Building (GB); and strengthening Government of Georgia (GOG) capacity to develop and implement a national Low Emission Development Strategy (LEDS) in support of the United States Government (USG) EC-LEDS initiative. The broader goal is to enable more responsible management and development of Georgia's natural endowments.

During its four years, the EC-LEDS Clean Energy Program is expected to reduce greenhouse gas (GHG) emissions in Georgia by at least 236,372.9 metric tons of CO₂ equivalent¹, facilitate up to \$14 million in private sector investments in clean energy, and lead to energy savings of up to 315 GWh (the equivalent of approximately \$22 million).

This report represents the second annual report for the EC-LEDS Clean Energy Program, covering the period of October 31, 2014 through September 30, 2015.

II. YEAR TWO PROGRAM HIGHLIGHTS

A. Finalization of Sustainable Energy Action Plans (SEAPS)

EC-LEDS finalized seven SEAPs for the COM-signatory cities of Tbilisi, Batumi, Kutaisi, Zugdidi, Gori, Telavi, Akhaltsikhe. This covers 37 % of the country's total population. EC-LEDS also developed Monitoring, Review, and Verification (MRV) plans for each SEAP.

B. Municipal Inventory, Projection, and Mitigation Planning (Muni-EIPMP)

EC-LEDS continues to develop, test, and improve on the Muni-EIPMP analytical tool while using it to update and develop municipal SEAPs and monitoring reports.

C. Business as Usual (BAU)

EC-LEDS developed BAU scenarios for energy consumption related sectors of:

- Energy,
- Transport,
- Industry, and
- Agriculture

¹ Request on new targets has been communicated with USAID/Caucasus and final targets will be assigned after USAID's response.

BAU scenario for the energy sector of Georgia's Intended Nationally Determined Contribution (INDC) is based on MARKAL results, which EC-LEDS continues to elaborate on in order to support the GOG in preparing a LEDS.

D. Green Building Georgia Rating System

GBCG developed the first ever of its kind in the country rating tool for existing green buildings specifically for Georgia. The target buildings are those developed by local developers, govern, municipalities, and private home owners. The tool is adapted to Georgian projects and it is easily applicable by local engineering professionals.

E. Buildings' Display® Labeling

EC-LEDS and partners have successfully laid the ground work for supporting the building stock owners/operators in optimizing energy performance of their sites. This task supplements EC-LEDS component one activities, adding value to the achievement of targets in one of the largest energy consumption sectors, buildings. Display ® labeling of the buildings is an excellent tool for municipalities to meet their COM obligations for monitoring and verification of the results. All COM municipalities are tasked to produce MRV reports in every two years after submitting the SEAPs to EU Joint Research Centre. Display® is primed to become one of the essential supporting instruments in the MRV process. To date, with support of EC-LEDS, more than 30 buildings in Georgia are labeled by the Display® program.

F. Empowering the Next Generation through Outreach

The finale of Energy Week 2015 was a students' architectural contest, "Best Coursework Design" organized by the EEC. EC-LEDS offered an award for the Best Green Design 2015. The prize and certificate were awarded to MA student Tamar Benashvili of the Georgian Technical University for "The Best Theoretical Analysis of Energy Efficiency Principles".

G. Public Service Announcements Spreading the Good News of Energy Efficiency

EC-LEDS released a total of five PSAs, aired on local television. These short animated films gave the audience fun and easy to remember examples of energy efficient facts along with do's and don'ts for economizing energy.

H. Energy Efficiency for Youth and Persons with Disabilities (PWD)

Over 300 school children and PWDs from Georgian Municipalities have participated in an EC-LEDS seminar on energy efficiency and renewable energy. These seminars empower them through training and education. EC-LEDS also produced flyers with Braille print for the blind and subtitles for the deaf.

III. ACTIVITIES COMPLETED DURING YEAR TWO

A. Component I: Georgian Municipal Energy Efficiency (GeMunee)

i. Background

In 2008, the European Union (EU) launched the Covenant of Mayors (COM) to endorse and support local governments in implementing sustainable energy policies. Cities and local authorities that want to join, or become signatories to the COM must follow certain steps

and take certain actions. For example, signatories must create an inventory to quantify greenhouse gas (GHG) emissions, develop a Sustainable Energy Action Plan (SEAP), and establish a Sustainable Energy Office (SEO) or regional Sustainable Energy Resource Center, among other things. Fourteen self-governing units (cities and municipalities) are currently signatories in Georgia: Batumi, Gori, Kutaisi, Poti, Rustavi, Tbilisi, Zugdidi, Akhaltsikhe, Telavi City, Telavi Municipality, Mtskheta City, Tianeti, Bolnisi, and Kazbegi Municipalities. The first city to become a signatory in Georgia, Tbilisi, developed and submitted its SEAP in 2011.

The EC-LEDS Clean Energy Program, through the GeMunee component, builds on USAID's support for Tbilisi and expands assistance to at least nine other municipalities to enable their participation in the CoM, including those that are already signatories. Assistance is limited to those municipalities that are not receiving assistance for similar activities from other donors.

Assistance to the municipalities includes, but is not limited to:

- Development and implementation of SEAPs;
- Establishment of Sustainable Energy Offices or Regional Sustainable Energy Resource Centers;
- Development of Monitoring/Reporting/Verification Plans;
- Development of Sustainable Energy Public Awareness Plans;
- Identification and implementation of Demonstration Projects via Partial Grants; and Development Credit Authority Guarantees and Financial Institution Assistance.

ii. *Selection of priority municipalities and Development of SEAPS*

In January 2014, EC-LEDS representatives visited 15 municipalities and used the municipality evaluation criteria approved by USAID under the EC-LEDS year one Work Plan to evaluate and prioritize municipalities. Municipalities were assessed according to the criteria below:

Table 1: Criteria Used to Assess Municipalities

Selection Criteria		Weight of criteria
1	CoM Signatory city/municipality or strong intention to join COM	10
2	Projected increase in GHG emissions because of economic or population growth	7
3	Willingness of a municipality to address emissions through facilitation and implementation of energy efficiency improvements	8
4	Willingness of a municipality to cooperate with the EC-LEDS	This criterion is used a filter. If the municipality does not express willingness to cooperate with the EC-LEDS program, it is automatically excluded.
5	Willingness of the municipality to contribute with human resources	9
6	Annual expenditure in a municipality for infrastructure improvements or construction	10
7	Total population within the municipality	5
8	Annual energy consumption in municipality (if known)	4

During the first quarter of the year two, EC-LEDS updated the list of potential municipalities for elaboration of SEAPs according to the criteria agreed and adopted during the year one. Face-to-face meetings, as well as on-line consultations were conducted with the

representatives of potential municipalities. Based on the results of those meetings and consultations with key stakeholders, it was decided that Gori, Telavi, Poti, and Tbilisi municipalities would receive assistance in year two.

After identifying the municipalities, the project began planning the communication strategy with municipality focal points in order to initiate local-level data gathering. After several months, Poti Municipality informed the Program that they were no longer available to undertake the intensive work required for SEAP development due to other important processes ongoing in the municipality. Therefore, EC-LEDS began assisting Akhaltsikhe City Hall instead, given that they were among the top 10 priority municipalities and expressed willingness and readiness to develop the SEAP.

In addition to the SEAPs for the four selected municipalities, EC-LEDS provided assistance to Tbilisi in monitoring their SEAP (developed in 2011) and developing a monitoring report, which was long overdue. The delay was caused by the fact that CoM had not yet issued its MRV guidelines. As the CoM release date for their MRV guidelines was unknown, EC-LEDS, through its partner Remissia, developed an MRV framework to use in developing MRV plans for SEAPs (note: the CoM issued its MRV guidelines in September 2014).

iii. High-Level Summary of SEAPs and Monitoring Reports Development by Municipality

In year two, EC-LEDS continued support to five municipalities with regards to their SEAPs and related documents/requirements. A high-level summary by municipality is provided below. Please see the following section for further detail.

1. Akhaltsikhe (One of four municipalities ranked as priority according to adopted evaluation criteria)
 - Elaborated SEAP & Monitoring Report in the framework of commitments under the CoM;
 - Assisted in developing SEAP documents together with MRV plans
 - Support to develop one project proposal.
 - Developed SEAP Communications Strategy.
2. Gori (One of four municipalities ranked as priority according to adopted evaluation criteria)
 - Elaborated SEAP & Monitoring Report in the framework of commitments under the CoM;
 - Assisted developing SEAP documents together with MRV plan;
 - Assisted in developing one project proposal;
 - Developed SEAP Communications Strategy.
3. Kutaisi
 - Developed SEAP Communications Strategies
4. Tbilisi (One of four municipalities ranked as priority according to adopted evaluation criteria)
 - Elaborated SEAP & Monitoring Report in the framework of commitments under the Covenant of Mayors (CoM) initiative;
 - Supported Tbilisi City Hall in monitoring the progress of Tbilisi 's SEAP and produced the monitoring report.
 - Based on the findings of the monitoring report, the project:

- provided technical support to Tbilisi City Hall in updating its SEAP together with its MRV (Monitoring, Review, and Verification) Plan,
 - elaborating one project proposal, and
 - updated Tbilisi's SEAP Communications Strategy.
5. Telavi (One of four municipalities ranked as priority according to adopted evaluation criteria)
- Elaborated SEAP & Monitoring Report in the framework of commitments under the CoM;
 - Assisted in developing SEAP documents together with MRV plan;
 - Provided support in developing one project proposal.
- iv. *Detailed Information Regarding Priority Ranked Municipalities' SEAP-Related Accomplishments*
1. Akhalsikhe: Work on Akhalsikhe SEAP started in parallel with the development of Tbilisi's MRV Plan and update of the SEAP document. The process began a bit delayed due to difficulties in identifying local experts to gather GHG inventory data. After identifying experts, the actual inventory process itself took quite a long time as well. Akhalsikhe became a self-governing city only in 2014 and still lacks an effective data management system (similar to other newly acknowledged self-governing cities). After several field visits to Akhalsikhe, working meetings with experts, representatives of different units, and the Mayor himself, the SEAP document was finalized and submitted for feedback and comments to the municipality. The MRV Plan and Awareness Raising Strategy accompanied the document. EC-LEDs also supported Akhalsikhe in the development of two project proposals; one on development of an energy efficiency unit within city hall and the second on energy efficient lighting in Rabati Castle.
2. Gori: Work on the SEAP document for Gori City Hall began in early 2015. EC-LEDs hired one local expert to gather local inventory data for transport, buildings, public lighting, waste, and green spaces. This was done for several reasons: (1) due to lack of local experts who would assist the project in GHG emission inventory and identification of possible mitigation measures and (2) the project met and consulted with the Mayor himself and other representatives of the city hall, who preferred this option. The expert was contracted for three months as an energy manager by the city hall. The expert liaised with all relevant departments, units, and representatives of the City Hall in order to ensure their regular participation in the identification of mitigation measures and development of the final report. After three months of intensive work, Gori's SEAP was developed and submitted to the COM. The document was accompanied by a MRV plan and awareness raising strategy. In addition, EC-LEDs supported Gori municipality in developing a project proposal on emission reductions from a local arts school.
3. Tbilisi: As mentioned above, EC-LEDs supported Tbilisi City Hall in drafting two documents; (1) MRV report for Tbilisi SEAP implementation (elaborated in 2011) and (2) updated Tbilisi SEAP. As anticipated, this part of the technical assistance was the most complex and challenging due to the intricacy of Tbilisi City itself. However, due to the exceptional proactive participation and support from the Tbilisi City

Hall, both of the documents were successfully finalized. The process started in early spring 2015 and finished in August of 2015.

External experts were hired to support the data inventory and identification of mitigation measures. Numerous working meetings were held with the heads of respective units and experts from different departments to analyze inventory data, identify strategies, and elaborate mitigation measures. Two separate documents were produced - MRV Report of Tbilisi SEAP and Updated Tbilisi SEAP accompanied with the MRV Plan and awareness raising strategy. The project also supported the development of a project proposal for Tbilisi, which covers developing a mitigation program for the building sector and piloting this program in Tbilisi kindergartens.

4. Telavi: Development of Telavi SEAP was a relatively smooth process because local experts with an understanding of respective sectors and writing skills were readily available. Four local experts were contracted for assistance in gathering inventory data and identifying possible mitigation measures. The first draft of the SEAP document with its MRV plan and awareness raising strategy was developed and presented to the City Mayor, the representatives of different units and council. Approximately one month later, the Council of the City of Telavi approved the SEAP document. Similar to Gori, the project also supported Telavi in developing a project proposal on mitigating GHG emissions from the Telavi sports center. The SEAP will soon be uploaded to CoM with the support from the project.

v. *Development of Muni-EIPMP Analytical Tool*

The Long-Term Energy Alternative Planning (LEAP) tool used for Tbilisi's SEAP, the first to use a BAU approach, is complex and beyond the capabilities of most municipalities. As a response, the JRC developed a different, though less accurate, approach. EC-LEDS thus decided to develop a simple inventory and projection tool for municipalities, drawing on information from the national MARKAL-Georgia model. This tool can be successfully used by municipalities, but is comprehensive enough to provide planners the insights they require. The approach ensures that actions and decisions taken at the national level will be properly incorporated in the municipal SEAPs, and that the cumulative influence of actions by the municipalities are properly accounted for in the national context.

In year one EC-LEDS developed modules for transport, buildings, and public lighting sectors, which include submodules for data gathering, emission inventory calculations, and BAU projections for these sectors up to 2020. The public lighting module has additional capacity to evaluate the impacts of a mitigation measure, substituting existing sodium lamps with LED lamps.

In year two, the following enhancements were made to the model:

1. The initial year for BAU was made to be flexible, so the users can choose the starting year of their analysis or create additional inventories for monitoring.
2. The last year of BAU scenario was also made flexible, so that emission projections can be evaluated for the years after 2020 as well. This was done because 2020 is fast approaching and new municipalities have very little time to implement their

mitigation actions during the remaining period. Thus, a longer time scale for BAU is more appropriate for them.

3. The options for BAU methodologies were added. User can choose from MARKAL projections, JRC projections, or any other national projections that are available.
4. The module for wastewater was added. For solid waste, the IPCC software can be used and integrated into muni-EIPMP. Modules include estimation of savings from mitigation measures.
5. The sheets for estimating mitigation effects and costs for different mitigation measures were also added. Sheets need to be populated with data from MARKAL analysis, or any other source.

In the fourth quarter, the tool was tested while developing the Tbilisi MRV, as well as the Tbilisi and Akhaltsikhe SEAPs. The final report on muni-EIPMP was produced in September and submitted to USAID. However, harmonization between the municipal and national MARKAL Georgia model data is yet to be completed, pending finalization of the latter.

- vi. *Develop and Conduct Workshops and On-The-Job Training on SEAP Development and Monitoring*

In terms of training and capacity building, EC-LEDs conducted four trainings during year two for the representatives of selected municipalities as well as those who signed the CoM initiative (14 municipalities in total). The four trainings are summarized below:-

- 1) Workshop on “Inventory of GHGs, Development of Business as Usual (BAU) Scenario and Mitigation Measures in Transport, Outdoor Lighting and Buildings” was held on 27 November 2014, in Technical University of Georgia. Representatives of self-governing cities and municipalities involved in Covenant of Mayors (CoM) process participated in the workshop. Participants exchanged the best practices in statistical data collection, development and application. The workshop had two parts - the first part was more theoretical explaining the techniques and methods for GHG inventory and emissions calculation in those three sectors; in the second part, the participants conducted practical exercises.
- 2) On February 25, 2015, the second training-workshop was organized at the Georgian Technical University. The thematic area of the workshop was inventory of Greenhouse Gas (GHG) Emissions, Business as Usual’ (BAU) scenario development and identification of mitigation measures in Waste Management and Greening sectors. The representatives of 10 Georgian municipalities attended the workshop. The objective of the workshop was to provide municipality representatives with the information on the methodology for identification and collection of data for calculations of methane gas emissions from waste and wastewater treatment sector and CO₂ absorption by green urban zones. Practical exercises for BAU scenario development and discuss emission mitigation measures in these sectors.

Remissia and WI experts gave five presentations during the theoretical part of the workshop. Ms. Pkhaladze gave a general overview of the EC-LEDs project, CoM, and SEAPs. Natela Dvalishvili gave presentations on “Activity data for calculation of methane emission in Waste Sector and the calculation methodology” and “Measures

for mitigation of methane emissions in Waste Sector”.Expert Koba Chiburdanidze gave presentations on “Activity data for calculation of CO₂ uptake by green zones in urban areas and methodology of calculation” and “Measures for increasing CO₂ absorption sources in urban environment”. A hands-on training was provided by Remissia’s junior modeler, Temur Chkheidze, who introduced the muni-EIPMP software to the participants and assisted participants in calculating emissions for a virtual city.

- 3) In the fourth quarter of the year two, more precisely from August 4 through 5, 2015 the training on “Preparation of project proposals for the GHGs mitigation measures to be implemented in the sectors considered in SEAPs” was held in Batumi. Representatives of 11 COM signatory municipalities participated in the training.

After introducing the main principles of project proposal development and criteria for selection, the training participants were divided into four working groups and were given the task to further elaborate the proposals drafted by some of the municipalities before the training according to the template provided to them in advance. They worked on Objectives, Actions, Barriers and Opportunities.

By the end of the training, four different project proposals on Energy Efficiency Agency, Transport, Green spaces, and Buildings were further elaborated by the representatives of the municipalities.

- 4) EC-LEDS held another training in quarter four, “Training for SEOs: Legal Aspects of Establishment and Operation of SEOs and Basic Financial Concepts and Terminology. The main objective of the training workshop was to introduce the representatives of CoM signatory cities and municipalities to legal aspects of establishing and operating SEOs and introduce them to basic financial concepts and terminology that would make it easier for them to understand and analyze investment proposals and equip them with essential skills required to prepare investment projects. The training on legal aspects was designed to instigate dialogue between the trainer and municipality staff and look for best solutions to overcoming barriers in establishing SEOs. The financial part of the training delivered information on such essential financial concepts and ratios as Present Value, Future Value, Net Present Value, Internal Rate of Return, etc. The training also engaged participants by presenting simple equations and asking them to solve them using the newly learned ratios. A total of 36 trainees participated in this training, of which 23 were male and 13 female.

vii. *Establishment of Sustainable Energy Offices or Regional Sustainable Energy Resource Centers*

Related to the fourth training as listed above, EC-LEDS developed recommendations on the proposed legal structure of SEOs for municipalities. However, in quarter two, EC-LEDS had to revise the report and update it with recommendations on recently enacted normative acts that affect the number of employees local governments are allowed to hire. Also, after working with the municipalities, EC-LEDS learned that the majority of municipalities preferred not to create a new unit within a municipality, but instead, suggested assigning SEO related duties to existing staff. Several factors affected this decision by municipalities, the most important of them being financial and bureaucratic constraints. EC-LEDS continues to work with municipalities on identifying optimal ways to perform SEO functions, whether

through establishing a standalone unit or through integrating the functions into existing structural units and personnel's responsibilities. To further ensure sustainability of the SEO units or functions, EC-LEDS provided training for municipalities on legal as well as financial aspects of SEO formation and operation was in Batumi on August 5, 2015.

viii. Development of Monitoring/Reporting/Verification Plans

In year two, EC-LEDS assisted Tbilisi in monitoring implementation of their SEAP, due in 2011. The delay in its submission was due to the fact that the COM had not issued its Monitoring, Reporting, and Verification (MRV) guidelines, due in 2010. Because there were no guidelines, the EC-LEDS team developed an MRV framework and protocols to use in developing the SEAP MRVs in place of the missing COM one.

As a result, the implementation Monitoring Report for Tbilisi SEAP, elaborated in 2011, was developed with very active participation of the Tbilisi City Hall. Representatives of the COM and SEAP coordinator Unit, as well as the Economic Policy Unit of Tbilisi City Hall facilitated the process and made sure that all relevant departments, units and experts of Tbilisi City Hall were involved in the process. The document addresses all SEAP sectors; transport, buildings, public lighting, waste, and green spaces, and monitors the implementation of planned GHG mitigation measures and CO₂ emissions reductions towards the BAU Scenario. It also makes reference to one of the important findings from the monitoring process: monitoring/evaluation of SEAP implementation is a continuous and rigorous process which takes a significant amount of time, which is exacerbated by the lack of an in-house SEAP implementation and monitoring unit within Tbilisi City Hall. The document is 146 pages long. Currently the draft document is sent to Tbilisi City Hall for their final comments and feedback.

ix. Development of Sustainable Energy Public Awareness Plans

As part of the SEAP process, EC-LEDS is assisting municipalities in drafting their SEAP communications strategies. In year two, communications strategies were developed for Gori, Akhaltsikhe, and Kutaisi SEAPS. The Communications Strategy for Tbilisi SEAP was updated.

In quarter one, EC-LEDS held focus groups in Zugdidi and Kutaisi to identify barriers and benefits/motivators for changing identified behaviors of the target groups, e.g. increasing students' involvement in greening activities in Kutaisi and installing energy efficient lighting in Zugdidi. Based on focus group findings, a survey instrument was finalized and used in interviews that were conducted in both cities in mid-December to validate the barriers and benefits/motivators. The results of the focus groups informed the second survey for the CBSM. Survey questions were based on focus group findings, and designed to determine the specific barriers and benefits associated with the behaviors chosen for the CBSM campaign, and to verify the findings in focus groups and determine the size of the CBSM target segments.

Initially, CBSM campaign design for Kutaisi greening activities was scheduled in April 2015. The EC-LEDS team held a number of meetings with Kutaisi Municipality during Spring-Summer 2015 to discuss the CBSM activities. Deputy Mayor of Kutaisi, Mr. Konstantine Kavtaradze, and the Head of Economic Development and Local Self-Government Property Management Department, Mr. Paata Kldiashvili, suggested several ideas for this activity, the

most relevant to the long-lasting behavior change goals of CBSM was greening of newly constructed kindergartens (to be put in operation in September 2015).

Submission of EC-LEDs CBSM Design Report has been postponed to January 2016 due to the decision to conduct the first pilot in Kutaisi (greening) in spring 2016. Respectively, the report on findings of Kutaisi CBSM will follow after Kutaisi pilot evaluation is complete. The second pilot in Zugdidi (promotion of compact florescent lightbulbs (CFLs)) will be conducted on the basis of findings suggested by Kutaisi CBSM pilot evaluation in summer 2016.

Each year, COM Municipalities host Energy Days in the month of June. In Georgia, the Energy Efficiency Center organizes these events in cooperation with Municipalities. In year two, EC-LEDs participated in a series of events under Sustainable Energy Week 2015 organized in collaboration with Energy Efficiency Center (EEC) Georgia, Akaki Tsereteli State University (ATSU), Kutaisi City Hall, and Tbilisi City Hall. The list of events is summarized below:

- Kutaisi - The city hosted a scientific conference entitled “Sustainable Energy: Challenges and Development Prospects” organized by EEC and the ATSU. The EC-LEDs COP delivered a presentation on EC-LEDs activities and the importance of Green Building to reduce CO₂ emissions.
- Kutaisi - The EC-LEDs team participated in the presentation of Energy Efficiency & Renewable Energy project to be implemented at the Kutaisi Torpedo Sports Center and presented the city’s Torpedo football players with EC-LEDs caps.
- Tbilisi - EC-LEDs took part in a conference entitled “Sustainable Energy Week 2015” in the Rooms Hotel, Tbilisi. The EC-LEDs COP spoke on EC-LEDs’ scope of work and activities. The event was organized by EEC and Tbilisi City Hall. The event was highlighted by Georgian media. See Annex II for further detail on media coverage.
- Tbilisi – The finale of Energy Week 2015 was a students' architectural contest, "Best Coursework Design" organized by the EEC. EC-LEDs offered an award for the Best Green Design 2015. The prize and certificate were awarded to MA student Tamar Benashvili of the Georgian Technical University for “The Best Theoretical Analysis of Energy Efficiency Principles”. The author conducted a large-scale pre-design site assessment for a wine factory in the Kakheti region. Visual materials consisted of a site master plan, floor plans, facades, cross-sections and details according to scale. Three-dimensional views were merged with landscape photos to create a realistic perception of the building *in situ*. The author demonstrated a high level of understanding of pre-design study and showed good survey skills. In addition to graphic materials, Ms. Benashvili submitted theoretical work separately, showing what technical solutions were made and which environmental strategies were elaborated.

x. *Identification and Implementation of Demonstration Projects via Partial Grants*

In quarter one of year two, USAID approved the program Grants Manual and Request for Applications (RFA) template. In December, EC-LEDS issued RFAs in the municipalities of Tbilisi, Kutaisi, Zugdidi, Batumi, Gori, and Rustavi. There were a total of ten applications received for five cities. However, there was no application received from Rustavi. The EC-LEDS evaluation committee consisted of:

- EC-LEDS staff,
- MOE representative,
- Ministry of Environment and Natural Resources Representative,
- an independent expert, and
- a USAID representative (non-voting member).

The Committee selected five partial grant projects for implementation in Batumi (two projects), Zugdidi, Tbilisi, and Kutaisi. During negotiations with Zugdidi and Batumi Municipalities, EC-LEDS learned additional information about local procurement legislation; realizing the procurement laws result in complex grant disbursement procedures, additional administrative burden, and extended time. As a result, EC-LEDS reviewed the aforementioned issue with WI Head Quarters (HQ) contracts unit and internally agreed the most efficient way to proceed would be to issue in-kind grant agreements, with municipalities as direct recipients, and to issue fixed obligation subgrants to other eligible entities. WI issued corresponding changes to the grants manual, which was approved by USAID.

EC-LEDS Engineering and Technology Consultant, together with Environmental Specialist visited Batumi and Zugdidi municipalities to discuss their grant proposals, and request additional details to the technical designs submitted by municipalities. After the municipalities provided the revised technical designs EC-LEDS prepared tender documents and issued international RFQs for Batumi and Zugdidi projects on August 26 with the deadline of September 25. EC-LEDS received six bids as a result of the tender; all of them included combined bids for both Zugdidi and Batumi projects. Meeting of Evaluation Committee to select a winning bidder for Batumi and Zugdidi grant projects was held at Winrock Georgia office on September 29. All Evaluation committee members attended the meeting - EC-LEDS COP, EC-LEDS DCOP, EC-LEDS Environmental Specialist, Independent Engineering and Technology Expert, Zugdidi municipality representative and Batumi municipality representative. EC-LEDS provided the committee members with evaluation sheets, and asked them to submit filled out evaluation forms on October 2. Unfortunately, none of the bids received meet the geographic code requirements of the subject Cooperative Agreement. As such, WI is currently discussing options with USAID (i.e.: 935 waiver request vs. rebidding).

Per USAID's instructions, EC-LEDS requested EEC, the grant recipient for Tbilisi and Kutaisi projects to obtain SAM registration. EEC successfully went through the registration process on September 14 and grant agreements were formalized by the end of quarter four, year two. Project work will commence in quarter one of year three

xi. Development Credit Authority Guarantees and Financial Institution Assistance

In the first half of year two, EC-LEDS learned that the Development Credit Authority (DCA) would most likely not take place and USAID would pledge money to E5P directly. At that stage, since information on E5P was scarce, WI suggested to leverage money directly

from municipalities (from municipal and government budgets). Below is a summary of all activities related to leveraging financing for climate change mitigation projects in partner municipalities.

EC-LEDS continued working with a private company in Tbilisi and Zugdidi municipalities to assist them in implementing a “brownfield” project. The concept envisages building a public-private partnership, between the municipalities and the private company, whereby the municipality will donate a brownfield site to a private investor, for them to rehabilitate the brownfield and build certified green buildings (both residential and commercial) on that territory. EC-LEDS is involved in this process by way of assisting the investor in attracting commercial and grant financing for the project. These two projects, if implemented, have the potential to bring investments in green buildings and climate change mitigation (depending on the size of the land allocated by the municipalities) of approximately:

- \$7,000,000 to \$15,000,000 in Zugdidi’s case and
- \$15,000,000 to \$35,000,000 in Tbilisi’s case.

In quarter four, EC-LEDS also worked with British Petroleum (BP) to identify a project in Akhaltsikhe municipality where BP has grant funds available. By pooling the grant resources, EC-LEDS and BP will work together to attract other donor funds for implementing a climate change mitigation project in this municipality.

On September 25, EC-LEDS DCOP attended a project launch event for UNDP, GEF and Batumi Municipality joint project – Green Cities: Integrated Sustainable Transport in the City of Batumi and Adjara Region (ISTBAR). The project envisages development of integrated sustainable urban transportation development plans for Batumi and other municipalities in Adjara region. According to the project manager, the project was designed based on Batumi SEAP. Total value of the project is \$1.13 million.

At the same time, EC-LEDS is continuing to work with EBRD and Tbilisi municipality on the bus fleet replacement project under the E5P mechanism. EBRD has prepared pre-feasibility studies for Tbilisi municipality, outlining several options for the project. Once Tbilisi municipality decides which option is the most acceptable to them, the project will be presented to the Ministry of Finance for approval and inclusion in the E5P pipeline. This project has a potential to bring investments of \$40,000,000 to \$60,000,000 in the transport sector.

In parallel, EC-LEDS continues working to identify other sources for funding climate change mitigation projects; private as well as donor options were all considered. For example, an EC-LEDS representative attended a Green Climate Fund (GCF) workshop. EC-LEDS started working on two concept notes to submit to GCF for funding consideration. As a result of this persistent and creative solutions-based approach, by the end of year two, EC-LEDS leveraged \$213,910 of program grant money into \$3,358,951 of municipal, private and other donor funds, thereby achieving 48% of the program’s end of year three target. EC-LEDS continues to work with municipalities, private companies, international financial institutions, donors, and E5P fund to identify financing opportunities and lay the foundation for the remaining three years of the program to successfully achieve the LOP targets.

EC-LEDS reached **48%** of the program’s end of year three goal in leveraging funds in year two.

B. Component 2: Green Building (GB) Rating and Certification System²

- i. *Develop and Implement a Voluntary System for Rating and Certifying Energy Efficient and Green Buildings*

The EC-LEDS program was tasked with recommending, developing, and implementing a voluntary GB rating system in Georgia and conducting outreach activities to promote certification of buildings and public demand for certified buildings. In order to establish and implement a Georgian voluntary system, International GB rating and certification systems were reviewed. At the same time, Alliance to Save Energy prepared an assessment of green building issues and recommendations for developing a buildings rating and certification Scheme in Georgia. The report suggested to: (1) use the Leadership for Energy and Environmental Design (LEED) and Building Research Establishment Environmental Assessment Method (BREEAM) methods, and (2) based on that, to develop a local voluntary green building rating system.

Capacity Building: EC-LEDS, in cooperation with the Green Building Council Georgia (GBCG), utilized training as a first step towards the goal of enhancing local professionals' skills and expanding the pool of local green building certification experts able to use energy performance labeling software. EC-LEDS held a train-the-trainer (TOT) event at the end of year one and beginning of year two, focused on the LEED and BREEAM green building rating systems. The TOT was conducted from September 30 through October 1, 2014. The training provided an introduction to the LEED and BREEAM rating systems and prepared 10 individuals (supplemented by additional individual study) for the LEED Associate exam, the first step towards becoming a LEED Accredited Professional. To become a BREEAM licensed certifier, an additional course with an official trainer is required. These trainees will serve as a resource for the GBCG's certification committee and subcommittees for certifying buildings with LEED and BREEAM rating systems and for providing additional trainings. Certificates of attendance were provided to participants together with the training materials.

International Methodologies and Requirements: Developing an energy performance methodology began with comparing energy performance methodologies in the EU Energy Performance Building Directive (EPBD) and the International Code Council's (ICC) International Energy Efficiency Code (IECC). Sustainable Development and Policy Center (SDAP) prepared a comprehensive report on the subject as well as a presentation of the findings. To assist the GOG in selecting an optimal approach to develop and carry out innovative energy performance building codes, this study compares energy performance requirements in the EPBD and in the International Energy Conservation Code 2015 (IECC). The EU commission will follow up with checking procedures associated with the next steps for national transposition of the Directive provisions and the review will be finalized in 2017.

The EU Commission decided to target the building sector of the Member States, which resulted in groundbreaking legislation, the Directive on Energy Performance of Buildings, EPBD 2002/ 91/EC. The EPBD law promotes building energy performance codes to enhance energy efficiency, and encompasses provisions for enforcement mechanisms to

² EC-LEDS received instruction from USAID to cease all Component two –related work on September 23, 2015. As such, this component is now deemed complete.

influence policy in the building sector to apply energy efficiency measures and renewable energy technologies in buildings.

Georgia has signed an association agreement with the EU which states that according to the EU/GE/Annex XXV of the agreement, Georgia has to implement Directive 2010/31/EU/. The Directive's provisions on energy efficiency have to be implemented in accordance with the timeline agreed by Georgia within the framework of the Energy Community Treaty.

A workshop with the aim to present findings of a study on comparison of energy performance requirements for buildings in the EPBD Directive and the International Energy Conservation Code 2015 IECC and to follow up with discussions on Georgia's plans for adopting requirements was held on February 24, 2015 at the "Radisson Blue Iveria" hotel in Tbilisi.

Energy Performance Labeling for Public Buildings To design an energy performance labeling program and provide recommendations to GBCG, SDAP carried out a comparison of Display® and "Energy Passport" software tools. More exactly, their two labeling approaches were compared - operational rating used by Display® and the calculated rating used by Energy Passport.

A key rationale for developing the energy display label was to motivate decision makers to take a common approach to monitoring and managing energy performance for public buildings. For a reference year, data on energy and water consumption as well as operational hours, service systems and area of a building are entered into the Display® program, which then gives an operational rating for energy performance, environmental performance, and water consumption of an existing building. This tool was very successful in EU countries and was used widely by energy managers for labeling of existing public buildings. The Software is very user friendly and does not require professional knowledge.

SDAP Center recommended that EC-LEDs and GBCG use the Display® certification tool to certify existing buildings, since many of the innovative factors proposed by the Building Energy Passport software tool may be neutralized for existing buildings and may not particularly affect the labeling result. As such, decision was made to use the Display®, and to acquire a license for this software.

GBCG was registered with Euro Cities for Display labeling software and paid the license fee. The license was awarded to GBCG on May 4, 2015. GBCG conducted Display training for its own staff and prepared training materials.

On June 17, 2015, GBCG, together with EC-LEDs announced Display® training for architects, designers, building services engineers, real estate professionals, building stock operators, bankers, governmental officials, and NGO representatives. The event took place on July 1, 2015 for six participants. Two representatives attended the training from the regions: one local governmental official from Mtskheta-Mtianeti and the other - representative of Kutaisi Akaki Tsereteli University. Other participants were from Tbilisi. At the end of the training, each

In Georgia, Display® was originally intended for COM-signatory municipalities. However, it has now generated amazing interest from a wider-pool of stakeholders (including NGOs, ministries, and the private sector), it has great potential to become a management instrument for other parties as well.

participant conducted labeling of a notional building.

For Georgian building stock operators Display® can be a tool for more sustainable building operation. In August 2015, GBCG, with support from the Municipalities of Rustavi, Akhaltsikhe, Kutaisi, Zugdidi and Batumi, labeled 17 municipal buildings. In addition, GBCG collected data for Display Certification from EUMM sites: EUMM HQ Tbilisi (former governmental hotel), EUMM GSS Building (private house), EUMM warehouse, EUMM

The GBCG plans to label more municipal and private buildings next year, setting ambitious targets to reduce GHG emission in Georgian municipalities over the following years. In August 2015, **GBCG labeled 17 municipal buildings**, with support from Rustavi, Akhaltsikhe, Kutaisi, Zugdidi, and Batumi.

Transport Building, EUM Field Office Gori, and EUMM Field Office Zugdidi in June. Building services were checked by location and type of energy consumption. EUMM facilities management and utilities expenditure monitoring and tracking scheme/system was also observed. The Display posters were prepared. The labeling activity was cancelled based on USAID instructions received on August 17, 2015.

The EC-LEDs program and GBCG were planning on carrying out monitoring activities of the sites that got Display® certification in years one and two of the program. If the recommended renovations have taken place, then the achieved performance improvements could be estimated, reported, and widely marketed as good practice examples. However, EC-LEDs received instruction from USAID on September 23, 2015 to not continue component two related activities into year three.

ii. *Develop a Preliminary Version of GB Certification System for Georgia*

The GBCG finalized the first draft version of the Georgian Rating and Certification System that was submitted to USAID in September 2015. The Green Building Rating System for Georgia is developed to rate and certify existing green buildings. The rating system is developed based on the international practice of the asset's and its operation and maintenance assessment; it covers the building itself, as well as its management scheme. Creation of this rating system is the first attempt of its kind in Georgia to develop the tool for green buildings. Its primary purpose is to measure how green is a particular building. Also it can be used as good practice guidance for building industry.

The Georgian Rating and Certification System developed under EC-LEDs is **the first of its kind** ever in Georgia.

The Georgian Rating System addresses almost all parts of building's environmental performance, such as site selection and transportation, energy and water use, materials and indoor environment, waste and building management. The rating system is based on the following three types of requirements:

- numerical or narrative requirement, the value or concept of which is given in the text;
- numerical or narrative requirement to which is to be calculated or shown by the applicant
- numerical or narrative requirement used in third party standard, guide or other reference materials.

On the one hand, the Georgian Rating System is designed to be simple and usable by average skilled Georgian experts. It is designed to cover as many environmental, and health

and safety issues as possible (like Asbestos management, Radon management). These issues are not covered by international rating tools as they are covered by legislation. However, since Georgia has no effective, and well enforced, safety regulations, the issues need to be included in the concept of green buildings until respective legal improvement takes place. According to the initial plan, after testing of the local rating systems the next step is development of the rating system for new buildings and renovation/reconstruction projects. Finally, a rating systems for particular types of buildings, such as schools, homes, building blocks, hospitals, retail, offices etc. has to be created. Eventually, as the Georgian green building market increases and the average skill level of Georgian green building professionals grows, the rating system can be developed further and become more complex. This also will be supported by local built environment related legislation, which, because of Euro integration process, is expected to become more environmentally strict.

During year one, GBCG proposed a framework approach to developing MRV plans for certified buildings. The framework was planned to be fleshed out during year two and incorporated into the Georgia-specific rating system and form the basis for developing MRV plans for certified buildings, including the winners of the Green Building of the Year Award and the Green Building Design Contest. However, as instructed by USAID on August 17, 2015 the activity was cancelled.

iii. Development of Promotional Strategy and Campaign

Marketing Strategy and Action Plan: During year one, EC-LEDS produced a Green Building Marketing Strategy for promoting GB certification. During year two, a supplemental implementation plan was developed, entitled: Green Building Certification Marketing Action Plan. The GB Certification Marketing Action Plan envisages conducting competitions to recognize and certify existing and new green buildings; and to begin implementation, complemented by outreach to the public and competitions to build demand for energy efficient and green buildings.

During December 2014, EC-LEDS conducted in-depth interviews with developers, builders, architects, realtors, and banks to understand the construction and building rehabilitation market in Georgia and how green building certification and energy performance labeling could enhance value. The EC-LEDS team reviewed the results of the interviews and finalized the Marketing Action Plan accordingly.

Implementation of the Marketing Action Plan to promote LEED and BREEAM certification and GBCG membership began with meeting targeted American companies. Companies included Colliers, Cushman-Wakefield, Deloitte Legal, and others. The Radisson Hotel had also expressed interest in learning about green building certification and energy performance labeling, since they have a corporate green policy.

Green Building of the Year Award: The GBCG Build Awards honors companies and professionals that demonstrate clear implementation of sustainable design, construction, and/or operation of buildings and structures. Its ultimate goal is to help establish a good environmental practice model for the built environment. Other National Green Building Councils organize similar competitions on a regular basis. This stimulates companies and individuals to enhance their sustainability approaches, market their products and skills, and at the same time, it supports the green building market and creates a reward and sparks motivation for excellent practices.

EC-LEDS in partnership with GBCG announced a competition for 2015 Green Build Awards in March with the deadline of April 15, 2015. In order to have broad coverage and not to limit participation, the applications were received in both Georgian and English languages. The main category of the competition sponsored by EC-LEDS was “Green Building of the Year” along with several other categories. Summary and evaluation sheets for the applications were developed and provided to Alliance to Save Energy’s GB expert, an international member of the Jury. Other members of the Jury included representatives from the Ministry of Economy and Sustainable Development, MOE, GBCG and EC-LEDS.

The winners of the competition were selected the week of June 1, 2015. Based on evaluation results, Eco Tour (Sustainable Architecture and Green Engineering Technologies Centre) was selected as a winner of the Green Building of the Year Award. The second best was New Technology Centre (Office and Conference Facility). The remaining award categories, sponsored by GBCG, are summarized in **Table 2** below:

Table 2: Remaining Awardees by Category

Category	Winner
Best Development Practice	Lisi Lake (Residential Development)
Planned Green Building of the Year	Inexpo (Marneuli sports hall site)
Best municipal practice award	Inexpo together with the client – Marneuli municipality
Best Corporate Management Practice	CENN
Other innovations and research in GB	Mr. Revaz Alishvili
Sustainable waste management	European Union Monitoring Mission in Georgia (EUMM)

The Award Ceremony for the Green Building of the Year competition was moved to September 15, 2015. Meanwhile, during the week of June 22, the GBCG notified the winners of the competition results. Additionally, GBCG was holding negotiations with a BREEAM/LEED International Expert on conducting certification of two buildings for the nomination of the GB of the Year. However, this activity was canceled based on instructions received from USAID on August 17, 2015.

EC-LEDS recommends that the GBCG hold another Green Building of the Year Competition in 2016 award, whereby local certification consultancy is provided by GBCG and free certification of the winner sites by local rating system.

Youth-Focused Promotional TV Program: As part of the EC-LEDS Green Building public awareness campaign, EC-LEDS supported a youth TV program entitled “Green Architecture”. For two months, from January 22 to February 26, 2015 the TV Channel Ertulovneba aired the programs each Thursday at 9:30 PM. The 30-minute programs focused on green building and its impact on the environment, energy efficiency, green materials, climate change, and green building certification systems. The creator of the program, Professor Tina Khimshiashvili, is a President of Georgian Association of Landscape Architects (GALA). She hosted guests from academia, the Tbilisi municipality, independent experts and organizations involved in building and architecture. Students from the Georgian Technical University, Tbilisi State Academy of Arts, and Ilia State University questioned guest speakers and expressed their own opinions. The program was produced in cooperation with Green Building Council Georgia and was re-aired in April 2015. As stated by Tina Khimshiashvili, President of the Georgian Association of Landscape Architects, the program is proving to be a success. Ms. Khimshiashvili said:

“This is the first step towards raising awareness of green buildings. I was amazed to hear that the most interested audience of our program was young people from 14 – 18 years of age. The results have exceeded my expectations.”

Best Coursework Contest: In addition, EC-LEDS established a special nomination in the Students’ Architectural “Contest Best Coursework 2015”. The Contest was organized by EEC under Sustainable Energy Week 2015. The purpose of the contest was to reveal the best coursework focused on sustainable development and green building principles, thereby promoting and educating the public on green building. The EC-LEDS prize and certificate for Best Green Building Design 2015 was awarded Tamar Benashvili, GTU Architectural Faculty student, the best theoretical analysis of energy efficiency principles prize. The design suggested construction of a wine factory in Kakheti. The author conducted a comprehensive pre-design site assessment including territory study, weather condition, landscape and transport. The author demonstrated better understanding of the pre-design study and showed good survey skills, which are a basis for good environmental design. The event closed the Energy Week 2015 activities.



Photo 2: Tamar Benashvili holding her certificate of award

“My prize-winning project is my Diploma thesis, entitled: Wine Factory. My purpose was to stress that ‘popular technologies’ can also be energy efficient.” – Tamar Benashvili, MA Student, GTU Architectural Faculty and winner of EC-LEDS Special Award.

Recommends for Continued Success: GBCG should continue implementation of the Marketing Action Plan, which was developed on the basis of the Marketing Strategy. The Marketing Action Plan implies general marketing to public through utilization of media channels, web, and Facebook resources, as well as direct marketing - approaches of the key sector stakeholders. Additionally, GBCG should continue working to build membership of the GBCG. Strong and wide membership is the basis of green building certification success. EC-LEDS highly recommends GBCG develop membership benefits and services scope for member organizations.

iv. *Development of a Monitoring/Reporting/Verification Plan*

The GB Assessment report in year one proposed a framework approach to developing MRV plans for certified buildings. The framework was planned to be fleshed out during year two and incorporated into the Georgia-specific rating system and form the basis for developing MRV plans for certified buildings, including the winners of the Green Building of the Year Award and the Green Building Design Contest.

As a result of the above-mentioned work, EC-LEDs achieved the following:

- Met with **24** companies and organizations and **5** municipalities that own public buildings.
- On August 5, 2015, representatives of **13** CoM signatory municipalities participated in the workshop dedicated to the energy labeling of the buildings with Display.
- Labelled **32** buildings (as opposed to two) while working with CoM signatory municipalities;
- Labelled **6** EU mission buildings
- Reached **102** individuals (versus 10 planned), broken out below
 - 12 participants at LEED/BREEAM rating system trainings,
 - 9 participants of Display® training,
 - 28 participants at the Workshop on Comparison of EPBD and IECC Building energy performance, and,
 - 53 municipal servants participated in Display® training.

Notable EC-LEDS' Green Building Achievements

- **32** buildings labelled
- **6** EU mission buildings labelled
- **102** individuals reached

EC-LEDS received instruction from USAID to cease all Component Two –related work on September 23, 2015. As such, this component is now deemed complete.

C. Component Three: National EC-LEDS Working Group and Advisory Assistance

The bilateral EC-LEDS initiative provides a strategic framework for the GOG to articulate concrete actions, policies, and programs that slow the growth of emissions while advancing economic growth and meeting Georgia's development objectives. This framework will provide a foundation for achieving long-term, measurable GHG emission reductions, as compared to a Business-As-Usual (BAU) development pathway, and for improving environmental management in Georgia. Representatives of the U.S. Government, including USAID, and the GOG (from various ministries) formed a LEDS Committee to achieve the goals and actions agreed upon by both countries in the Memorandum of Understanding signed on December 17, 2012. EC-LEDS participates in the LEDS Committee and plays a critical role in ensuring assistance activities are linked with national priorities, and that data, findings, and results at the municipal level are used to inform national actions, policies, and programs.

Initial activities focused on capacity-building and meeting key LEDS Steering Committee (SC) members and their Expert Working Group (EWG) members to share the significance of LEDS and the assistance available from the EC-LEDS program. Managing the LEDS process, including organizing meetings of the EWG and SC, and assigning LEDS analysis and policy formulation to various LEDS SWGs, is a significant and complex task. Below is an over-all summary of activities continued during year two:

- Continued collaboration with the MOE's Analytical Department (MOE-AD) to update the MARKAL Georgia model.
- Added functionality to enable analysis of non-energy emissions,
- Incorporated data from the EC-LEDS municipal baseline survey into the MARKAL model.

- Intensified capacity building activities by providing a series of trainings and consultancy services to the sectoral SWGs, the Climate Change Office of the MoENRP, and the GOG.
- Regularly provided valuable advisory assistance to the GOG and arranged a series of high-level meetings.
- Intensified works on MARKAL Georgia in order to finalize the BAU.

i. Ensure SEAP Activities are Consistent with National Policies and Practices

The list of metrics to be supplied to muni-EIPMP by MARKAL-Georgia were prepared and discussed between Remissia and DWG. The metrics will ensure that national BAU projections drive the local (municipal) BAU projections. As work on MARKAL-Georgia was halted in quarter four, the metrics have not been developed yet, thus SEAPs developed in the year two used the BAU projections from the Joint Research Centre (JRC) of EU, instead of national MARKAL (BAU) projections.

ii. Ensure that Municipal-level Data, Findings, and Results Inform National Policies, Programs, and Actions

In year two, Remissia developed the list of metrics to be supplied to muni-EIPMP by MARKAL-Georgia, which included sectoral emission growth rates, projections of electricity grid emission factors, and others. The list was discussed and passed to DWG, who will turn it into tables extracted from MARKAL-Georgia which will serve as input to muni-EIPMP.

iii. Analytical Capacity Building

Prior to the EC-LEDs project, the MOE received significant amount of capacity-building on analyzing energy sector strategies and evaluating emissions impacts of those plans, using MARKAL-Georgia as an analytical tool. However, low-emissions concepts, approaches, technologies, and analytical approaches introduced by EC-LEDs were new for most of the other Ministries involved in LEDs.

During quarter one, capacity building focused on enabling the LEDs sub-working groups (SWGs) and the MOE-AD to participate in and understand the policy analysis that will be conducted in support of Georgia's LEDs development. This began with an Expert Working Group (EWG) meeting at the MOE in the beginning of October. The non-energy "proxy" BAUs were presented (the energy BAU was presented at the very end of year one).

At this first planning team meeting, EC-LEDs staff presented information on the status and outcome of the SWG meetings held the end of year one; the results of the SEAPS developed by municipalities during year one; and a schedule of meetings and topics for the SWGs and EWG for the remainder of 2014. The planning team met again in November 2014 at the MOE to review the BAU in more detail, to discuss current policies and programs and potential LEDs policies, and to agree on a timeline for analyzing these options with the support of EC-LEDs. Meetings with all SWG Chairs were held in December 2014 to review the LEDs terms of reference that was presented to the EWG in May 2014, and to clarify assistance available from the EC-LEDs program.

EC-LEDs intensified capacity building activities in quarter two and worked regularly with the sectoral sub-working groups by providing assistance and help in estimating emissions and

analyzing mitigation measures in relevant sectors. In addition, EC-LEDs responded to the request of the SWGs and arranged a special meeting of the heads of SWGs for discussions of the report “*Approach to Georgia LEDs Policy Analyses*” prepared by Winrock. The heads of the SWGs attended the meeting.

At the request of the MOE-AD, Winrock, working with Remissia experts, provided training on MARKAL Georgia for the AD staff. The experts from DWG and Remissia demonstrated how to analyze the MARKAL results and run different scenarios of BAU related to the variable GDP growth rate.

During quarter three, the program worked intensively with the sectorial sub-working groups, the Climate Change Office of MoENRP, and the MOE. WI regularly provided valuable advisory assistance to the GOG and arranged a series of high level meetings. WI intensified works on MARKAL Georgia in order to finalize the BAU. The third quarter was also marked by successful participation and involvement in several major international projects, trainings, and programs.

On February 20, a high level steering committee meeting was organized by Winrock. The meeting was attended by the Minister of MoENRP, Deputy Ministers of MoENRP, MOE, and Ministry of Economy and Sustainable Development, there were representatives of international donor organizations, USAID - Ms. Veronica Lee, GIZ -Mr. Ulrich Kindermann and Xavier Rouars of French Developing Agency (FDA), the representatives of GEOSTAT and the NGOs.

The meeting was chaired by the First Deputy Minister of MoENRP, Mr. Murgulia. It was first time at this high level meeting when the deputy ministers of MoENRP and MoESD officially presented their vision and ambitious plans to reduce the country’s emissions by 40% against 1990 level. The participants, international donors, welcomed the presented plan and admitted Winrock’s key role in developing the ambitious plans of GoG to significantly reduce the GHG emissions and coordinated the works and efforts of the stakeholders to achieve this goal. Their position was summed up by Mr. Xavier Rouars, of French Development Agency (FDA) who, as the representative of the 2015 Paris Climate Summit, expressed the support to Georgia’s ambitious goal and on behalf of his agency expressed readiness to provide support to GoG.

In February 2015, Deputy Minister Valishvili requested EC-LEDs to prepare information on Georgian statistics on energy and emissions per unit for all sectors, benchmark against the same statistics in other countries, and prepare information on mitigation policies for these sectors.

In the beginning of April, 2015 the project, through its International contractor DWG and local contractor, Sustainable Development Center Remissia, in cooperation with the MENRP and MOE-AD, conducted the capacity buildings sessions for finalizing a BAU. The DWG conducted the hands-on working sessions at the MOE- AD from March 30 through April 3, 2015, aimed at interpreting model results, identifying appropriate policies, as well as conducting the working group meetings. The working group meetings informed the sector experts of what measures and policies are most attractive for their sector, and how these then impact and interact with the rest of the energy system as part of cost-effective LEDs policy design. After that, the DWG team researched and prepared information on mitigation policies in each sector that are good examples for Georgia.

On March 30, a senior-level meeting was organized by the Climate Change office in cooperation with WI at MoENRP. The meeting was attended by three Deputy Ministers: Temur Murgulia, Deputy Minister of MoENRP, Mariam Valishvili, and Deputy Minister of MoE, Irma Kavtaradze, and Deputy Minister of MoESD. Presentations were made by experts from the MOE-AD, Decision Ware Group (DWG), and Sustainable Center Remissia. USAID representative, Mr. Sukru Bogut, participated in the meeting. Mr. Murgulia facilitated the meeting. The LEDS development, BAU scenarios, and Energy related GHG mitigation measures were discussed at the meeting. The Deputy Ministers expressed their willingness to hold another meeting to summarize BAU calculations, plan the development of the LEDS document, and discuss the findings from the working groups on the selected mitigation measures to be translated into the policy recommendations. The LEDS role in the development of INDC was intensely discussed at the meeting.

In January 2015, EC-LEDs hired an international LEDS expert, Alicia Hayman, who prepared the outline for the LEDS document, which was shared with the MOENR Climate Change office for their review and decision by end of quarter three.

In year two, Remissia, together with DWG, continued supporting and training the MOE-AD on how to use MARKAL-Georgia. The training included GHG emission inventory compilation and calibration to MARKAL results, development of BAU scenario, and included mitigation analysis for the power sector and energy efficient lighting.

iv. Provide Advisory Assistance to the GOG

The first steps in developing a LEDS include:

- Developing an emissions inventory,
- Developing an assessment of data available for LEDS planning, and
- Business-As-Usual (BAU) emissions projections.

Georgia completed the 2011 emissions inventory in 2013. The energy inventory was updated to 2012 and incorporated into the MARKAL Georgia model.

The EC-LEDs program also focused on updating the MARKAL Georgia model for use by the MOE in developing an updated energy strategy. EC-LEDs focused on calibrating CO₂ emissions from the energy sector based on Georgia-specific emissions factors, adding mitigation options for the energy sector (energy, transport, industry and buildings) and adapting the model to incorporate non-energy emissions (industry, forestry, agriculture and waste).

In year two, DWG and Remissia continued supporting and training the MOE-AD on how to use MARKAL-Georgia. A number of mitigation scenarios for the MOE were run and analyzed, including the energy efficiency in lighting, energy efficiency in thermal generation, and meeting Energy Community target for Energy efficiency. The results were analyzed and discussed with the staff of the MOE-AD.

Remissia supported development of four different BAU projections (optimistic, pessimistic, average and for MoENRP projections) for energy using MARKAL-Georgia, serving as intermediary between DWG and MoENRP. Remissia also reviewed the 2012 adjusted energy balance used to feed the MARKAL-Georgia. While working on the sectorial GHG

projections, Remissia found that there was considerable mismatch in sectoral gas consumption between the 2013 energy balance developed by Geostat and adjusted 2012 energy balance developed by the Analytic Department for Markal-Georgia. After consultations, the SWG made further adjustment to 2012 balance and corrected the base year inventory. Further scrutiny of 2012 adjusted balance showed that similar significant mismatches are present in sectoral consumptions of other fuels as well. Based on these findings the, the MOE requested to change the base year 2012 to 2013 and use energy balance developed by Geostat.

EC-LEDS continued advisory service and technical assistance to MoENRP. The LEDS advisor seconded to the climate change office of MoENRP regularly carried out working meetings providing advisory services to the MoENRP, as stipulated in the bilateral EC-LEDS initiative to provide a strategic framework for the GOG to articulate concrete actions, policies, and programs designed to mitigate the growth of emissions and at the same time encouraging steady economic growth in order to meet Georgia's development objectives.

EC-LEDS had arranged regular meetings with the staff and the Head of The Climate Change Office of the MoENRP discussing the progress of the works on the mitigation options and the materials related to LEDS and INDC processes. At the same time the EC-LEDS advisor worked closely with other stakeholders, the ministries involved in the LEDS process, on a daily basis he cooperated with the MOE and the Ministry of Economy and Sustainable Development - the major stakeholders of LEDS development process in Georgia.

EC-LEDS provided expertise service on specific tasks, such as development of BAU parameters and the materials to be presented and discussed at the official Economic Council of GoG. EC-LEDS provided its inputs and analyzes of the process to reduce emissions by 15% and 25% from BAU (conditional and unconditional), thus meeting the country's approach to reduce emission by 40% from 1990 baseline. At the same time, the EC-LEDS advisor worked in close cooperation with the Climate Change Office staff to help finalize Georgia's INDC, the details of which were developed based on LEDS research and findings and needed further clarification.

EC LEDS provided assistance, advises, and expertise to the MoENRP to organize a high level Intended Nationally Determined Contribution Stakeholders Consultation meeting; the Winrock staff analyzed the data and information to be discussed at the upcoming meeting and worked on them together with the Head of the CC office of MoENRP.

Winrock's COP, the LEDS Advisor, and Winrock staff participated in the conference dedicated to the INDC and Stakeholders Consultation Meeting, which took place on August 16, where the EC-LEDS COP gave a presentation on LEDS development, its achievements, and contributions to INDC of Georgia. The conference had special interest in LEDS findings.

In quarter four, the LEDS advisor provided consultancy advisory services to a UNDP program aimed at developing biomass production and promotion throughout Georgia, The EC-LEDS advisor was asked to evaluate the biomass potential of Georgia and analyze various types of raw materials for biofuel production to develop and promote alternative, renewable, clean energy. This project, aiming to develop solid biomass production and decrease firewood consumption, is supported by the MOENRP of Georgia and Global Environment Facility (GEF).

LEDS experts participated in the seminar organized by GIZ Green Climate Fund Readiness Expert Mission in Georgia. The seminar was dedicated to Green Climate Fund activity and Georgia's governmental and non-governmental organizations' opportunities to prepare projects and get funds from GCF. At the seminar the GCF representatives provided comprehensive information on GCF and its programming processes, as well as GCF's readiness of the project ideas and implication for the national programming system and arrangement. The seminar was supported by MoENRP.

The LEDS advisor was asked to provide consultancy services to the representatives of Itochu Corporation, Japan, and discussed the expected environmental benefits of Clean Solar Energy generation, namely construction of Solar Photovoltaic panels array in Tbilisi producing electricity to be implemented by Itochu Corporation, Japan, within the grant and financial support of the Japanese Government.

EC-LEDS provided consultancy and advisory services to the Tbilisi City Hall related to clean transportation development. The LEDS Advisor had a meeting with Head of Urban Development Department of Tbilisi City Hall, Mr. Nemsadze. The Head of Urban Development Department is interested in developing clean transportation in Tbilisi and requested specific research and findings from LEDS advisor, who provided the requested information on public transport powered by Conventional diesel, biodiesel and LPG. Mr. Nemsadze is also interested in the possibilities to receive energy, namely gas from waste fields, and use it as the power for the public transport in Tbilisi and the technical possibilities to receive methane and use this gas for clean transportation and its ultimate effect on reduction of GHG emissions. The EC-LEDS advisor gave an overview of the project undergoing at WI and informed the Head of Urban Development Department about the SEAPs designed for the Georgian Cities members of CoM and the projects supported by EC-LEDS.

The EC-LEDS advisor developed cooperation with the Swedish Energy Agency (SEA), which is a governmental agency for national energy policy issues in Sweden. Discussed with the District Heating Board of SEA the policies and best practice of districts heating systems of Sweden and the possibility to adopt their experience in urban areas of Georgia.

The LEDS advisor also had discussions on the issues related to Energy Efficiency with the experts from KTH (Royal Institute of Technology, Stockholm, Sweden), analyzing Policy Measures for Energy Efficiency adopted in northern European countries, which could be adopted for Georgia.

D. Environmental Protection Activities

In accordance with 22 CFR 216 Environmental Compliance Procedures and approved Initial Environmental Examination (IEE, DCN: 2012-GEO-076) EC-LEDS has been putting efforts towards incorporation of environmental safeguards into the considerations of all program components and activities.

The Initial Environmental Examination (IEE) was approved on June 22, 2012 (DCN: 2012-GEO-076). The approved IEE for the EC-LEDS program confirmed the potential for significant adverse effects of one or more activities and recommended carrying out an EA or PEA pursuant to 22 CFR 216.3(a)(4).

Consequently, a Scoping Statement (SS) and Programmatic Environmental Assessment (PEA) have had to be prepared for projects/sites that involve major refurbishment, rehabilitation or construction works in order to ensure environmental impacts and their significance are known and clearly identified prior to the approval of final pilot interventions and start of rehabilitation and implementation work.

In year one, the SS was developed for those EC-LEDS Clean Energy program components that are not subject to a categorical exclusion or negative determination with conditions (i.e., a positive determination) per the approved IEE. The purpose of the SS was to identify the potential impacts associated with the various project activities that may be implemented as part of the EC-LEDS program.

EC-LEDS received approval of the final Environmental Scoping Statement (SS) report document on November 20, 2014. The SS defines the scope of program, and the significance of the issues and likely effects to be addressed under the Programmatic Environmental Assessment (PEA).

Implementation of the PEA document began in quarter three of 2014. The PEA serves as a reference document from a programmatic perspective, setting an over-all umbrella format for environmental assessment and management rules under EC-LEDS activities.

The first draft of the PEA document was submitted to USAID on January 28, 2015. On February 27, 2015 EC-LEDS received feedback from USAID. Accordingly, EC-LEDS revised the PEA and a revised second draft was delivered to USAID on April 7, 2015. The final version of the EC-LEDS PEA document was approved by USAID on June 19, 2015.

Following the approval of the PEA document, and in accordance with USAID environmental compliance procedures, EC-LEDS put efforts towards elaboration of sub-grant projects related environmental compliance documentation. For that purpose, proposed sub-grant activities were analyzed against several critical factors, such as: the character of proposed actions, the type of structural measures, and whether the proposed structural actions, their impacts, and mitigation measures are considered in the PEA defined EMMPs. Depending on the activity -specific individual assessments, either “Activity-Specific Environmental Monitoring and Mitigation Plan (EMMP) and/or Environmental Review Checklists (ERCs)” documents have had to be produced.

EC-LEDS Environmental Specialist has conducted several site visits for the purpose of gathering information and baseline data for elaboration of activity -specific individual environmental assessments. Periodic monitoring propose site-visits continue upon now. Right after the completion of the project related activities, respective “Record of Compliance with the EMMP” documents will be submitted to USAID.

E. Cross-Cutting Activities

i. Public Communications and Outreach

In order to reach Program goals and build a clear understanding of the benefits of clean energy, energy efficiency technologies and green buildings, and tools for their implementation, the program incorporates public outreach activities across all components.

Outreach and Communications goals include:

- reaching 1 million Georgian citizens with core messages,
- leading to energy and money-saving actions by at least 100,000 people;
- increasing citizen awareness on the fact that energy saving measures improve the comfort in buildings and houses and reduce costs while decreasing GHG emissions, and
- creating a positive image for EC-LEDS.

The outreach efforts will also raise awareness of green building rating systems and benefits, targeted to households, private sector businesses and investors, and construction and development companies.

In year two, the EC-LEDS outreach and communication campaign was supported by EC-LEDS Facebook page, quarterly newsletter, Public Service Announcements (PSAs), flyers and promotional item – caps, t-shirts, key-chains and pens.

In year two, EC-LEDS won the USAID/Caucasus Photo Contest 2014. The winning photo was taken at Batumi Awareness Campaign in August, 2014. All five winners of the contest were awarded certificates.

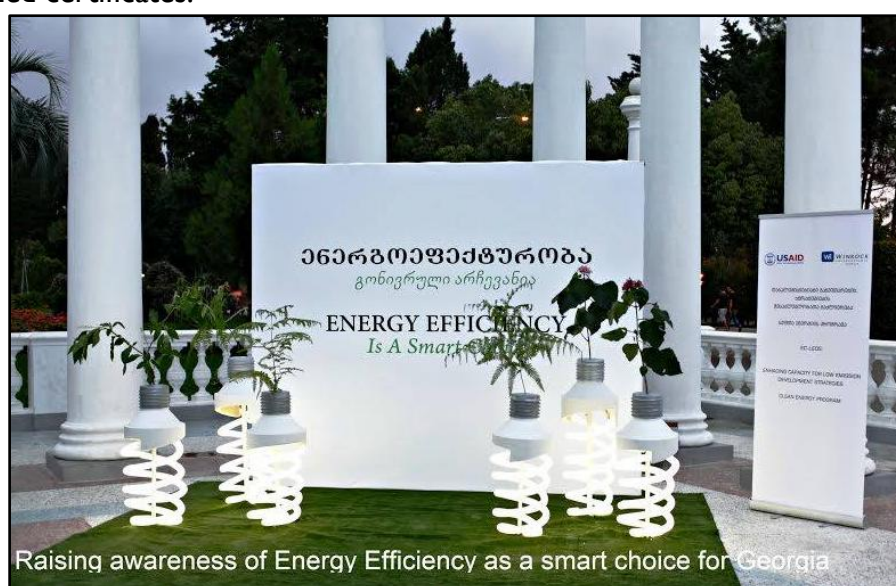


Photo 3 USAID/Caucasus Photo Contest Winning Photo

In the reporting period, EC-LEDS produced four success stories about Youth EE events in West Georgia, Youth TV Program “Green Architecture”, Best Green Design 2015 for Students’ Architectural Contest and Building Energy Labeling by Display.

In year two, EC-LEDS and its service provider, PR firm Fast Forward Communications (FFC), produced one 70-second PSA and four 30-second PSAs that were aired as a social advertisement on TV Channel 1, Imedi, Rustavi2 and Tabula during Year 2. These short animated films give the audience examples of energy efficient facts along with do’s and don’ts for economizing energy. A summary of all PSA scenarios is provided below:

Scenario #1:

- ✓ An energy efficient light bulb consumes 75% less energy than the traditional incandescent one.
- ✓ Using a pan lid while cooking will save 14% of energy.

- ✓ If a human yells for 8 years, 7 months and 6 days non-stop, he/she generates enough energy to heat a cup of coffee.
- ✓ Don't yell to heat coffee – use energy efficiently!
- ✓ Energy Efficiency Is A Smart Choice!

Scenario #2:

- ✓ To switch on a 60 watt light bulb, a wind turbine has to perform 0.0002 rotations.
- ✓ To switch on the same capacity light bulb, 1,160,429 hamsters have to run round a wheel non-stop.
- ✓ Don't make hamsters run to switch on a light!
- ✓ Energy Efficiency is a Smart Choice!

Scenario #3

- ✓ Each time the door of a refrigerator is opened, 30% of its cool air is lost.
- ✓ An electric eel discharges 400 volt energy to defend itself.
- ✓ Do not attack an electric eel.
- ✓ Energy Efficiency Is A Smart Choice.

Scenario #4

- ✓ 75% of energy is consumed by electric appliances in stand-by mode.
- ✓ A washing machine uses 90% of its energy to heat water.
- ✓ Pedaling a bike one can generate 150 watts of energy-- enough to watch TV.
- ✓ You don't need to cycle in the apartment--use energy wisely!
- ✓ Energy efficiency is a smart choice!

In the reporting period, the EC-LEDS PSAs were aired on a screen over Tbilisi Event Hall (a total of 500 spots).

During year two, EC-LEDS and FFC launched a Facebook page to reach a wide audience and provide a platform to promote events that EC-LEDS stakeholders (i.e. municipalities) are engaged in. The Program integrated its energy efficiency brand and slogan “Energy Efficiency is a Smart Choice” into its FB profile and content. EC-LEDS FB content and presence is maintained on a weekly basis and utilizes the platform to share content and broadcast PSAs, publicize events and program highlights. By the end of Year I the EC-LEDs Facebook page gathered 2,448 likes, among them, the most active group is youth 18-24 years of age.

The EC-LEDS National outreach campaign is supported by printed materials. During the reporting period the outreach team produced flyers, t-shirts, caps, pens, and key chains with the EC-LEDS program logos, energy efficiency brand and slogan “Energy Efficiency is a Smart Choice”.

EC-LEDS produced the Quarterly Newsletters and distributed it during EC-LEDS events and via e-mail.

In June the U.S. Embassy celebrated America Days to showcase American culture and U.S.-supported programs in four Georgian cities -- Zugdidi, Akhaltsikhe, Gori and Tbilisi. Organizing an Information Fair, the Embassy showed visitors about assistance programs, educational exchanges, consular and immigration services, various grants and other development projects supported by the U.S. Government in Georgia. Guests listened to

American music and watched street dancing performed live by both Georgian and American artists and youth. For the occasion, the Embassy had invited the hip-hop and rock fusion music group "Dangerflow", based in Miami, Florida.

The EC-LEDs Clean Energy Program took part in America Days on June 6 in Tbilisi's Rike Park. The team presented their projects, accompanied by an installation formed of energy efficient light bulbs, and distributed t-shirts, caps, key chains, and brochures to the public. This helped EC-LEDs team get their messages to the public about the benefits of energy-efficient measures and technologies.



Photo 4: EC-LEDs promotional items at America Days 2015



Photo 5: EC-LEDs tent shared with WMTR at America Days 2015

In year two, EC-LEDs participated in a series of events under Sustainable Energy Week 2015 organized in collaboration with Energy Efficiency Center (EEC) Georgia, Akaki Tsereteli State University (ATSU), Kutaisi City Hall and Tbilisi City Hall:

- Kutaisi - The city hosted a scientific conference entitled "Sustainable Energy: Challenges and Development Prospects" organized by the Energy Efficiency Center Georgia and the Akaki Tsereteli State University. The EC-LEDs Acting COP delivered a presentation on EC-LEDs activities and the importance of Green Building to reduce CO₂ emissions.
- Kutaisi - The EC-LEDs team participated in the presentation of Energy Efficiency & Renewable Energy project to be implemented at the Kutaisi Torpedo Sports Center and awarded city's Torpedo football players with EC-LEDs caps.
- Tbilisi - EC-LEDs took part in a conference entitled "Sustainable Energy Week 2015" in the Rooms Hotel, Tbilisi. The EC-LEDs Acting COP spoke on EC-LEDs' scope of work and activities. The event was organized by Energy Efficiency Center Georgia and Tbilisi City Hall. The event was highlighted by Georgian media.
- Tbilisi – Energy Week 2015 was closed by a students' architectural contest, "Best Coursework Design" organized by the EEC. EC-LEDs offered an award for the Best Green Design 2015. The prize and certificate were awarded to MA student Tamar Benashvili of the Georgian Technical University for "The Best Theoretical Analysis of Energy Efficiency Principles". The author conducted a large-scale pre-design site assessment for a wine factory in the Kakheti region.

Visual materials consisted of a site master plan, floor plans, facades, cross-sections and details according to scale. Three-dimensional views were merged with landscape photos to create a realistic perception of the building *in situ*. The author demonstrated a high level of understanding of pre-design study and showed good survey skills. In addition to graphic materials, Ms. Benashvili submitted theoretical work separately, showing what technical solutions were made and which environmental strategies were elaborated.



Photo 6: (from left) Giorgi Abulashvili from EEC Georgia, Professor Gia Arabidze from GTU, EC-LEDs Acting COP Inga Pkhaladze and Omar Zivivadze from Akaki Tsereteli State University at Scientific Conference in Kutaisi



Photo 7: (from left) EC-LEDs ACOP Inga Pkhaladze, Deputy Mayor Irakli Lekvinadze, Giorgi Abulashvili, EEC Georgia, representative from Tbilisi City Hall.

ii. People with Disabilities (PWD), Youth and Gender

In year two, the EC-LEDs Clean Energy Program finalized the Cross-Cutting Action Plan and submitted it to USAID. The Plan addresses the issues of gender, youth, and people with disabilities in its outreach efforts and includes producing promotional and educational materials specifically for people with disabilities; using subtitles for deaf and dumb and Braille for blind children and adults.

Since December 2014, EC-LEDS has cooperated with USAID's Momavlis Taoba (Future Generation) program implemented by PH International. In 2010 PH International created a civics education web portal (www.civics.ge) within the framework of the USAID-funded Applied Civic Education and Teacher Training Program. The Momavlis Taoba Program has supported this web portal since 2014. The purpose of the web portal is to increase public awareness of civic education as a means to influence the knowledge, attitudes and behaviors of youth as active participants in Georgia's democratic society.

EC-LEDS held six youth EE events and two informational sessions for PWD in the regions of Georgia. Events were held in Kutaisi, Zugdidi, Batumi, Tbilisi, Gori, and Telavi aiming to involve youth and PWD in energy efficiency through education and training. The main objective of youth events was to involve youth in energy efficiency and climate change mitigation. The students were selected from Civics Clubs for students from the 9th to 12th grades. During the event, students watched a presentation on "How to Save Energy" the participated in a contest, "Energy Efficiency is a Smart Choice" to demonstrate their EE skills acquired at the seminar. The seminar was conducted by Professor Gia Arabidze, Dean of the Energy and Telecommunications Faculty at Georgian Technical University.

The EC-LEDS Youth Energy Efficiency Events were two and a half hours long, of which the first two hours were dedicated to "How to Save Energy". The seminar covered the following topics:

- What is Energy Efficiency: A brief introduction to energy efficiency and explanation of energy terms.
- Ways to Save Energy: Various ways to save energy and the energy audit.
- Information Campaigns: A brief description of advertising and information campaigns about energy efficiency.
- The Importance of Energy Efficiency: The importance of energy efficiency with regard to the rational use of energy, energy security of the state, and the importance of energy efficiency for Georgia.
- Energy Efficiency in the Residential Sector: How to save energy at home.
- Energy Efficient Technologies: An introduction to technologies and appliances.
- Renewable Energies: Renewable energy sources were discussed with examples of technologies and how to use them.
- Energy Efficient Projects: Some energy efficient projects supported by donor organizations.



Photo 1 Participants at the Youth EE Event in Zugdidi



Photo 2 Participants at the Youth EE Event at GTU in Tbilisi



Photo 3 EC-LEDS Promotional Items distributed among participants of Youth/PWD EE events



Photo 4 Medals for EC-LEDS Youth Event winners



PHOTO 5 EC-LEDS FLYERS AND KEY CHAINS



Photo 6 EC-LEDS Youth/PWD Event Participation Certificate

In the reporting period, EC-LEDS participated in the Earth Day Celebration organized by Waste Management Technologies in the Regions and Ecovision at Tbilisi Zoo. The EC-LEDS representative gave branded t-shirts, caps and pens to the winners of the contests.



Photo 14 Winrock Georgia Events Manager handing out EC-LEDS promotional items



Photo 15 Tbilisi schoolchildren at the Earth Day celebration

The EC-LEDS team participated in the presentation of Energy Efficiency & Renewable Energy project to be implemented at Kutaisi Torpedo Sport Base and awarded Torpedo football players with EC-LEDS branded caps.



Photo 16 Torpedo football players at Torpedo Sport Base, Kutaisi

As part of EC-LEDS GB awareness campaign, EC-LEDS established a special nomination in the Students' Architectural Contest Best Coursework 2015. The Contest was organized by EEC under Sustainable Energy Week 2015. The purpose of the contest was to reveal the best coursework focused on sustainable development and green building principles. The EC-LEDS prize and certificate for the Best Green Building Design 2015 was awarded to the student of GTU Architectural Faculty Tamar Benashvili for the coursework entitled The Best Theoretical Analysis of Energy Efficiency Principles. The design suggested construction

of a wine factory in Kakheti. The author conducted a comprehensive pre-design site assessment including territory study, weather condition, landscape and transport. The author demonstrated better understanding of the pre-design study and showed good survey skills, which are a basis for good environmental design. The event closed the Energy Week 2015 activities.



Photo 17 EC-LEDS Prize and Certificate for the Best Green Design 2015



Photo 18 (from left) Giorgi Gongliashvili from BP-Georgia, Professors Levan Beridze and Gocha Mikiashvili, WI Awareness Manager and the winner of EC-LEDS special Nomitaion Tamar Benashvili

The purpose of EE events for PWDs was to empower PWDs through education on energy efficiency and provide them with equal opportunities to enjoy the benefits of energy efficient behavior. Information Sessions were held in Batumi and Tbilisi. Participants included PWDs from NGO Changes For Equal Rights, Georgian Blinds' Union and Association Anika.



Photo 19: Information Session for PWD in Tbilisi



Photo 20: Information Session for PWD in Batumi

EC-LEDs produced flyers with Braille print for blind people and PSAs with subtitles for deaf people.



Photo 21: Screenshot from PSA with subtitles



Photo 22: Screenshot from PSA with subtitles



Photo 23: EC-LEDs EE flyer with Braille print

iii. *Cooperation with Other USAID Programs*

Governance for Growth: Collaboration with other EC-LEDs planning activities began through meetings with HPEP, later with G4G. Specifically, Winrock and G4G collaborated on implementing their residential end-use surveys in order to link end use and attitudes/knowledge of consumers, as well as on obtaining municipally relevant data in addition to nationally relevant data. Also, EC-LEDs collaborated with G4G in developing the Energy Reference scenario serving as the BAU scenario for the LEDs.

Waste Management Technologies in Regions: Opportunities for collaboration in public outreach, analytical methods, and project implementation in the waste, environmental, and agricultural processing sectors were explored with the Waste Management Technologies in Regions program implemented by ICMA/CENN and the New Economic Opportunities (NEO) program implemented by Chemonics.

iv. *Cooperation with Other Donors*

During year two of the EC-LEDs program, EC-LEDs cooperated with the Clima East program and GIZ in leveraging technical assistance for LEDs. EC-LEDs discussed collaborating with Clima East to utilize expert facility for possible support of industrial climate mitigation experts. Also, EC-LEDs discussed collaborating with GIZ to develop forestry non-energy mitigation options, develop Transport Sector Vertical NAMA, and participated in the INDC commitment elaboration with GIZ.

The project cooperated with the World Wide Fund for Nature (WWF) to further develop the Energy Efficiency Stove NAMA as well as with EcoFys in the development of the Building NAMA.

EC-LEDs collaborated with the UNDP-GEF funded Green Cities Initiative to be implemented in Batumi. This project, focused on the transport sector, will provide a further injection of funds for the implementation of mitigation projects identified in SEAP developed by EC-LEDs program.

v. *Local Partner Capacity Building*

Local partner capacity building is a key element of the EC-LEDs program, and WI is committed to building partners' capacity to work directly with USAID. Training and capacity-building provided during year two, including training workshops and on-the-job capacity building, contributed to local partners' successful implementation of program activities. A one-day training for EC-LEDs local partners was provided on USAID the Open Data Policy. A total of seven participants, one man, and six women took part in this training. Local partners represented included: SDAP, Remissia, and GBCG.

In addition, Organizational Capacity Assessment of local organizations was also conducted. The Organizational Assessment of Five Georgian Sustainable Development NGOs was submitted to USAID on June 10, 2015. The objective was to assess the organizational capacity of local NGOs to manage and implement a direct award from USAID to perform continuing and follow-on work to the current Georgia EC-LEDs program, in the 2015-2018 timeframe. The USAID Organizational Capacity Assessment Tool (OCAT) was used for the assessment of following organizations:

- (1) Energy Efficiency Centre Georgia (EEC)
- (2) Green Building Council Georgia (GBCG)
- (3) PMC Research Center (PMC-RC)
- (4) Sustainable Development Center Remissia (Remissia)
- (5) Sustainable Development and Policy (SDAP) Center

The Final Report was produced and delivered to Winrock in May 2015 including recommendations based on the analysis conducted during the assessment process and suggestions to enhance the organizational development of the assessed NGOs. The report provided organization-specific recommendations, however the top two recommendations which applied to all organizations are below:

1. Develop, document, and implement cost-share procedures, and
2. Develop a M&E system, which is applied not only at the project level, but also at the organizational level. Accordingly, develop and implement M&E processes at both levels.

During quarter three of year two, local sub-grantees of EC-LEDS program were trained in USAID Open Data Policy. The goal of the training was to raise awareness on USAID Open Data Policy and its requirements and improved knowledge regarding the ways of compliance with new policy. As a result of the training, each partner submitted already available datasets to Winrock Georgia, after which M&E Specialist compiled collected data and prepared for submission to Development Data Library.

In addition to the afore-mentioned, in year two, reporting templates for local partners of EC-LEDS program were also developed and shared with organizations. Based on agreement, local sub-grantees provide the filled templates to EC-LEDS' M&E specialist on a monthly basis. This activity, on the one hand, increased the capacity of local organizations to document monitoring data and, on the other hand, improved data collection methods of EC-LEDS program.

F. Project Administration

i. Constraints and Critical Issues

Legal and Financial Constraints impact SEO Development: As stated above, EC-LEDS did a legal assessment on the legal structure and recommended to establish SEOs as structural units of their respective Municipalities, with the aim/potential to later spin-off these structural units, as partially or wholly municipally owned ltd-s. However, due to legal and financial constraints, municipalities were not able to establish SEOs according to the recommended form. As a result, EC-LEDS started working with municipalities on a solution to identify optimal ways to perform SEO functions, whether it is a standalone unit or integrated into current structure(s) and personnel's responsibilities.

Local Procurement Legislation's Impact on Grants:As stated above, during the negotiations with Zugdidi and Batumi Municipalities, EC-LEDS realized that local procurement legislation makes the process of grant disbursement and administration quite complex and extended in time. As a result, EC-LEDS reviewed the aforementioned issue with Winrock HQ contracts unit and it was internally agreed that the most efficient way to proceed would be through In-kind grant agreements in cases where municipalities are direct recipients, and fixed

obligation sub-grant agreements with NGOs, private sector firms, and any other type of eligible entities. This aforementioned change in the grant disbursement process, revising the grant manual, and receiving all necessary approvals respectively resulted in delays.

Second Tier SAM Registration Requirement's Impact on Grant Roll-out: While preparing and planning for the grants program, WI reviewed compliance requirements and conferred with HQ-based contractual experts. As a result of this review, WI determined that SAM registration was not required for EC-LEDs subgrant recipients. However, USAID later instructed EC-LEDs to require its subgrant recipients to obtain SAM registration, citing compliance requirements, resulting in further delays. Since receiving instructions from USAID, EEC has successfully registered in the SAM and EC-LEDs is working with its other grant recipients to ensure SAM registration. The registration process took fifteen days in total.

Cancellation of DCA Mechanism's Impact on Leveraging Funds: In the first half of year two, EC-LEDs learned that the DCA would most likely not take place and USAID would pledge money to ESP directly. At that stage, since information on ESP was scarce, and guidance on how to proceed had not yet been received, EC-LEDs proposed to leverage money directly from municipalities (from municipal and government budgets). This has proven to be an excellent solution as, by the end of year two, EC-LEDs leveraged \$213,910 of program grant money into \$3,358,951 of municipal, private and other donor funds.

Delays in LEDS Work Implementation: The process of organizing and preparing to develop a LEDS at the National level has taken more time than envisioned. The GOG required additional work under the LEDS scope which required development of a modified scope for Component Three. The new scope including all requested additional activities was submitted to USAID for approval. The approval process continued for all of quarter four, which resulted in some implementation delays for Component Three.

Unavailability of Poti City Impact on SEAP Work: After identifying municipalities to work with, and developing implementation plans for the individual municipalities, EC-LEDs was informed by Poti officials that Poti City Hall was no longer available to dedicate the extensive time required for SEAP development, due to conflicting priorities. EC-LEDs quickly resolved this issue by identifying Akhaltsikhe City Hall as a replacement.

Geographic Code Requirements' Impact on Grant Project Implementation: EC-LEDs received six bids for the Zugdidi and Batumi grant projects. Unfortunately, none of the bids received meet the geographic code requirements of the subject Cooperative Agreement. As such, WI is currently discussing next step options with USAID (i.e.: 935 waiver request vs. rebidding). Both possible solutions to this issue could result in delays in implementation for the grants projects, however re-bidding would likely result in further delays as the entire bidding process takes close to three months.

ii. *Personnel*

In year two, EC-LEDs changed the following personnel:

- Project Chief of Party (COP), Dana Kenney was replaced by the Deputy Chief of Party (DCOP), Inga Pkhaladze.
- The Financial Advisor, Giorgi Giorgobiani was appointed as DCOP.

- EC LEDS program recruited a Monitoring and Evaluation Specialist as well as an Environmental Compliance Specialist.
- In addition, three technical consultants were hired to support EC-LEDS program implementation in various areas.

During year two, quarter two changes to Key Personnel were observed. In March 2015, EC LEDS Chief of Party Mrs. Dana Kenney was replaced by the former Deputy Chief of Party Mrs. Inga Pkhaladze as Acting COP. Mr. Giorgi Giorgobiani, former Financial Advisor, took position of Acting Deputy Chief of Party. In September 2015 USAID approved new key personnel. In addition to the program staff, the following technical resources were added to the team in Year II to support the program activities and objectives.

Mr. George Simongulashvili was engaged in quarter two as an Organizational Development Consultant in order to provide technical expertise in assessing the organizational capacity of five (5) local organizations.

During the same quarter two, Mr. Zviad Archuadze, Local Municipal Infrastructure Expert, was hired as a member of the Technical Evaluation Committee under EC LEDS Component I partial grants program in order to identify potential grant recipient municipalities and to review/assess grant applications from the standpoint of their consistency with municipal development plans and sustainable energy action plans (SEAP).

Mr. Avtandil Lomiashvili was hired in quarter three as an Engineering and Technology (E&T) Consultant to assist Winrock in implementation of partial grants program. Mr. Lomiashvili is responsible for reviewing, editing and approving technical designs for renewable energy and energy efficiency projects under the grants program in order to ensure their technical and engineering feasibility. He also participated in the grant recipient selection committee to review and assess received bids from the standpoint of their technical and engineering feasibility and appropriateness, efficiency and cost-reasonableness.

iii. *Cooperative Agreement Modifications and Amendments*

During year two, the subject cooperative agreement was modified twice, as summarized per **Table 3** below:

Table 3: Modifications made to Cooperative Agreement in Year Two

Date	Mod #	Purpose
11/21/2014	04	Add mandatory provisions on USAID Implementing Partner Notices (IPN) and Submission Datasets to Development Data Library (DDL) and Whistle Blower protection.
1/27/2015	05	<ul style="list-style-type: none"> • increase the total obligated • revise the mandatory standard provisions for US Nongovernmental Organizations and required, as applicable, Standard Provisions for US Nongovernmental Organizations, and • add a new required as Applicable Standard Provision for U.S. Nongovernmental Organizations.

G. Year Three Work Plan

EC-LEDS year two Work Plan was approved on August 24, 2015. The year three Work Plan was submitted to USAID for approval on September 9, 2015. After review and comments, the year three Work Plan received USAID approval on October 1, 2015³.

H. Deliverables and Products Submitted During Year Two

During year two of the program, the deliverables listed below were provided to USAID.

Table 4: Summary of Year Two Deliverables

Component	Title/Description	Date submitted to USAID
all	EC-LEDS Work Plan for Year 2	13-Oct-14
Component 3	Presentation in the Ministry of Education and Science for the LEDS introduction	27-Oct-14
Component 3	Presentation in the Ministry of Agriculture for the LEDS introduction	28-Oct-14
All	EC-LEDS Annual Progress Report	31-Oct-14
Component 3	Presentation in the Ministry of Regional Development and Infrastructure for the LEDS introduction	31-Oct-14
Environmental Compliance	EC-LEDS Environmental Scoping Statement Report	13-Nov-14
Component 1	Memo on Updating Municipality Selection	13-Nov-14
Component 1	Report on Updated Selection of Municipalities for SEAP Assistance	13-Nov-14
Component 1	Final Grants Manual	24-Nov-14
Component 2	Green Building Rating and Certification Training Report	13-Jan-15
Public Outreach	EC-LEDS Report on TV Program	15-Jan-15
Component 1	Workshop Report on SEAP Data	15-Jan-15
Component 1	Workshop Report	26-Jan-15
Environmental Compliance	Draft PEA	28-Jan-15
All	EC LEDS Quarterly Report Year 2, Quarter 1	04-Feb-15
Component 1	Sustainable Energy Action Plan for Zugdidi	27-Feb-15
Component 1	Sustainable Energy Action Plan for Batumi	27-Feb-15
Component 1	Sustainable Energy Action Plan for Kutaisi	27-Feb-15
Public Outreach	Media Coverage Report - January - February 2015	19-Mar-15
Component 1	Workshop Report - Inventory of Greenhouse Gas Emissions, BAU Scenario Development and Identification of Mitigation Measures in Waste and	26-Mar-15

³ Approval excluded targets proposed for the “projected greenhouse gas emissions reduced or avoided through 2030 from adopted laws, policies, regulations, or technologies related to clean energy as supported by USG Assistance” indicator. EC-LEDS is currently awaiting further instructions from USAID regarding this indicator.

	Greening Sectors	
Component 2	Green Building Marketing Action Plan	26-Mar-15
Component 2	Report on Comparison of EPBD and IECC Requirements for Building Energy Performance	30-Mar-15
Public Outreach	Media Coverage Report - March 2015	03-Apr-15
Environmental Compliance	EC-LEDS Second Draft PEA	07-Apr-15
All	Quarterly Progress Report Jan- Mar 2015	17-Apr-15
Component 2	EC-LEDS Report on Adopting Display or Energy Passport Tool, and Developing Guidelines	24-Apr-15
Component 1	Sustainable Energy Action Plan for Gori (Geo)	30-Apr-15
Component 3	MARKAL-Georgia EC-LEDS Reference Scenario Report	30-Apr-15
Public Outreach	Media Coverage Report	08-May-15
M&E	GIS Data Collection	08-May-15
Public Outreach	Report on EC-LEDS Youth Energy Efficiency Events	18-May-15
Component 1	Memo on Suggested Grant Award Types for Local Municipalities (Along with the Official Letters from the Mayors of Zugdidi and Batumi) and the Amended Grants Manual for Approval	18-May-15
Public Outreach	Media Coverage Report	22-May-15
M&E	Training Report on EC-LEDS Local Partners Introduction to Open Data Policy and New Reporting Requirements	08-Jun-15
Public Outreach	Cross cutting Action Plan	19-Jun-15
Public Outreach	Media Coverage Report _ June 2015	07-Jul-15
All	Quarterly Progress Report Apr- Jun 2015	13-Jul-15
Component 2	Review of International Experience in Building Energy Performance Certification and Labeling	14-Jul-15
Component 2	Training Report on Building Energy Labeling by "Display"	20-Jul-15
Component 2	Report on the Energy Performance Methodology for Georgia (Draft Version in English)	10-Aug-15
Public Outreach	Report on EC-LEDS Information Session for People with Disabilities	11-Aug-15
Component 1	Sustainable Energy Action Plan for Telavi (Geo)	12-Aug-15
Component 1	Sustainable Energy Action Plan for Gori	12-Aug-15
Component 2	MRV Framework and Methodology	13-Aug-15
Component 2	Competition Evaluation Report for Green Building of the Year Award, Including MRV Plan	25-Aug-15

Public Outreach	Success Story	27-Aug-15
Public Outreach	Media Coverage Report_August 2015	27-Aug-15
All	EC-LEDs Year 2 Work Plan with Memo Regarding Indicators	8-Sep-15
All	EC-LEDs Year 3 Work Plan (First Draft)	09-Sep-15
Component 2	Display Labeling Private Sector Promotion Program	11-Sep-15
All	EC-LEDs Year 3 Work Plan along with the project Detailed Budget, Summary by Cost Categories and Budget Narrative	22-Sep-15
Component 2	Report on Preliminary Version of GB Rating and Certification System for Operation and Maintenance of Existing Buildings	30-Sep-15
Component 1	Training Report on Legal Aspects of Establishment and Operation of Sustainable Energy Offices and Basic Financial Concepts and Terminology	30-Sep-15
Component 1	Sustainable Energy Action Plan for Telavi (Eng)	30-Sep-15
Component 1	Tbilisi MRV Report (Geo)	30-Sep-15
Component 1	Sustainable Energy Action Plan for Tbilisi	30-Sep-15
Component 1	Telavi Project Proposal (Eng)	30-Sep-15
Component 1	Tbilisi SEAP MRV Plan (Geo)	30-Sep-15
Component 1	Municipal Emission Inventory, Projection and Mitigation Planning Tool (muni-EIPMP)	30-Sep-15
Component 1	Monitoring report on the implementation of city of Tbilisi Sustainable Energy Action Plan	30-Sep-15
Component 1	Project Proposal for Akhaltsikhe	30-Sep-15
Component 1	Project Proposal for Gori	30-Sep-15
Component 1	Sustainable Energy Action Plan for Akhaltsikhe (Geo)	30-Sep-15

I. Lessons Learned

The process of organizing and preparing to develop a LEDS at the National level has taken more time than envisioned.

After the Senior-Level Meeting in March, where the three Deputy Ministers Temur Murgulia, (Deputy Minister of MoENRP), Mariam Valishvili, (Deputy Minister of MoE), Irma

Kavtaradze, (Deputy Minister of MoESD) expressed the GoG interest to summarize BAU calculations, plan the development of the LEDS document, and discuss the findings from the Working Groups on the selected mitigation measures that need to be translated into the policy recommendations, the new action plan was developed by EC-LEDS team in cooperation and consultations with USAID.

Additional activities requested by the Government were discussed during the working meetings with USAID. According to the request of the MOE, the possibility of developing a BAU guidebook was also discussed. The guidebook should have the detailed description of the BAU development process, including assumptions and calibration activities. Deputy Minister requested to work on three scenario descriptions to be included into the guidebook that in future will help the GOG analyze options and take policy decisions. These three scenarios are: 1) Demand and Supply (commercial) 2) Energy Security (with limited assumptions) and 3) Renewable energy and Energy Efficiency scenario (En.Intensity).

An additional official letter provided by the Deputy Minister Valishvili (dated June 5, 2015) requesting change of the base year for MARKAL Georgia (from adjusted 2012 to 2013 approved by the Geostat) was also provided to USAID. This work also requires full update of the MARKAL model calculations along with the mitigation measures identification.

During the intense meetings the Government requested USAID to provide assistance on developing a full LEDS document, which exceeds the EC-LEDS approved budget for Component three.

IV. PROGRAM PROGRESSTOWARD INDICATORS

Indicators: The indicators with Year 2 targets include outcome indicators OC2, OC3, OC4, OC7 and output indicators OPI1, OP2, OP3, OP4, OP5, OP6, OP7, OP8, OP9, OPI10, OPI11, OPI12, OPI13, OPI14, OPI15, OPI16, OPI18, OPI19, OP22, OP23. During Year 2, activities in all components and cross-cutting issues have been implemented and progress has been demonstrated. However, not all achievements can be quantified.

In year two of EC-LEDS program, indicator Outcome 7: Expected lifetime energy savings from energy efficiency or energy conservation, as a result of USG assistance was added to Performance Monitoring Plan. Respective targets were defined. In addition, a memo regarding removal/revision of targets for Outcome 1, Outcome 2 and Outcome 3 was also sent to USAID for their approval. The response regarding the stated document will be communicated from donor in year three.

Open Data Policy: Besides, during year two USAID introduced new policy on Open Data, which obligates EC-LEDS to submit all datasets to Development Data Library. The list of documents to be uploaded in CSV format was prepared, agreed with USAID and the files are being ready for submission. In order to raise awareness of Partners regarding new policy, a training for local subs was conducted.

At the end of quarter two, GIS data collection template was also filled out and sent to USAID for their referral.

Monitoring: In Year one, the PMP database was finalized and data was entered. Data Quality Assessment Worksheets (DQAW) were prepared for the following indicators at the request of USAID:

- OC2 Quantity of greenhouse gas (GHG) emissions, measured in metric tons of CO₂ equivalent);
- OP3 Number of institutions with improved capacity to address climate change issues; and
- OPI6 Number of individuals receiving USG supported training in energy related policy and regulatory practices.

Table 5 below summarizes program achievements outlined in two tables: 1) Summary of achievements and 2) details regarding year 2 indicators with respective activities.

Table 5: Status of Project Indicators

Indicator	Type	Total Cumulative Actual (Y1+Y2)	Total Cumulative Target (Y1+Y2)	Y3 Target	LOP Target
OC2: Quantity of greenhouse gas (GHG) emissions, measured in metric tons of CO ₂ equivalent (CO _{2e}), reduced or sequestered as a result of USG assistance	Outcome	0	43,000	55,000	236,000
OC3:Energy saved due to energy efficiency/conservation projects as a result of USG assistance	Outcome	0	62,000	75,000	315,000
OC4:Value of private sector clean energy investments	Outcome	3.36	4	3.64	14
OC5: Number of local organizations positioned to receive USG funding and implement USG projects as a result of EC-LEDS assistance	Outcome	0	0	1	1
OC7: Expected lifetime energy savings from energy efficiency or energy conservation, as a result of USG assistance (OC7)		0	0		
OP1:Number of low emission development plans developed and/or implemented as a result of USG assistance (LEDS, SEAP, other)	Output	7	7	3	10
OP2: Number of Sustainable Energy Offices (SEOs) or regional Sustainable Energy Resource Centers established in participating municipalities	Output	0	3	2	5
OP3:Number of institutions with improved capacity to address climate change as a result of USG assistance	Output	15	14		14
OP4: Number of stakeholders using climate information in their decision-making as a result of USG assistance.	Output	20	14		14

Indicator	Type	Total Cumulative Actual (Y1+Y2)	Total Cumulative Target (Y1+Y2)	Y3 Target	LOP Target
OP5: Number of laws, policies, strategies, plans, agreements or regulations addressing climate change mitigation officially adopted or implemented/proposed with USG assistance	Output	1	2	1	3
OP6: Number of climate change mitigation tools, technologies or methodologies developed, tested and/or adopted as a result of USG assistance	Output	2	2	2	2
OP7: Number of households/businesses/public institutions implementing energy efficiency measures as a result of USG assistance (# HHs, # businesses, # institutions)	Output	0	500	1000	1500
		0	2	8	10
		0	2	8	10
OP8: Number of climate change mitigation projects implemented as result of USG assistance	Output	0	5	15	20
OP9: Number of buildings labeled based on green building or energy efficiency standards	Output	32	2	4	10
OPI0: Number of individuals reached through outreach campaigns	Output	2,894,633	500,000	250,000	1,000,000
OP 11: Number of USG-supported training or activities that contribute to building the EE knowledge and skills in the GOG, Municipalities, industry and other stakeholders	Output	32	36	14	50
OPI2: Number of individuals receiving USG-supported training in technical energy fields	Output	283	100	0	100
OPI3: Value of grants disbursed as a result of USG assistance for scientific research and energy efficiency pilot projects	Output	0	300,000	\$200,000	\$500,000

Indicator	Type	Total Cumulative Actual (Y1+Y2)	Total Cumulative Target (Y1+Y2)	Y3 Target	LOP Target
OPI4: Number of promotional plans and campaigns implemented to increase awareness of citizens about energy efficiency	Output	2	2	2	2
OPI5: Number of beneficiaries receiving improved infrastructure services due to USG assistance	Output	0	1	2	3
OPI6: Number of individuals receiving USG supported training in energy related policy and regulatory practices	Output	523	90	0	90
OPI7: Number of MRV plans developed to track the impact of SEAP implementation	Output	7	7	3	10
OPI8: Number of individuals at national and local level trained in climate change as a result of USG assistance	Output	238	50	20	70
OPI9: Number of developers, investors/building owners/buyers aware of the green building rating and certification system	Output	37	30	0	30
OP22: Number of decisions made by LEDS steering committee or involved agencies using analysis based on MARKAL or other appropriate tools	Output	2	0	2	2
OP23: Number of individuals trained on green building rating systems	Output	40	10		10

INDICATOR TITLE: Quantity of greenhouse gas (GHG) emissions, measured in metric tons of CO2 equivalent (CO2_e), reduced or sequestered as a result of USG assistance (OC 2)									
UNIT: Metric tons of CO2	DISAGGREGATE BY: <i>None</i>								
	Geographic Location	Event			Date		total		
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
Metric tons of CO2	0	20,000	0	43,000		55,000		236,000	

INDICATOR TITLE: Energy saved due to energy efficiency/conservation projects as a result of USG assistance (OC 3)									
UNIT: GW/h _e	DISAGGREGATE BY: None								
	Geographic Location	Event			Date		total		
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	GW/h _e	0	20,000		42,000		75,000		315,000

INDICATOR TITLE: Number of private sector clean energy investments (OC 4)									
UNIT: USD	DISAGGREGATE BY: None								
	Geographic Location	Event			Date		total		
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	USDMillion	0	0	0	4.0	3.36	3.64		14

Indicator Title: Number of local organizations positioned to receive USG funding and implement USG projects as a result of EC-LEDS assistance (OC 5)									
UNIT: USD	DISAGGREGATE BY: Region or Municipality								
	Geographic Location	Event			Date			total	
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	USD Million	0	0	0	0		1		1

INDICATOR TITLE: Expected lifetime energy savings from energy efficiency or energy conservation, as a result of USG assistance (OC 7)									
UNIT: Gigajoules (GJ)	DISAGGREGATE BY: None								
	Geographic Location	Event			Date		total		
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
		0	0	0	TBD		TBD		

Indicator Title: Number of low emissions development plans developed and/or implemented as a result of USG assistance (LEDS, SEAP, other) (OP I)									
UNIT: No. of Plans developed	DISAGGREGATE BY: Phase of implementation (developed, implemented)								
	Geographic Location		Event		Date		total		
	Gori		SEAP for Gori Municipality developed		March, 2015		1		
	Telavi		SEAP for Tbilisi Municipality developed		April, 2015		1		
	Tbilisi Akhalsikhe		MRV Report for Tbilisi SEAP for Akhalsikhe Municipality developed		June, 2015 September, 2015		1 1		
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	No. of Plans developed	0	3	3	4	4	3		10

INDICATOR TITLE Number of Sustainable Energy Offices (SEOs) or shared Sustainable Energy Resource Centers established in participating municipalities(OP 2)									
UNIT: No. of Sustainable Energy Offices/ Sustainable Energy Resource Centers established	DISAGGREGATE BY: <i>New offices, ongoing offices</i>								
	<i>Geographic Location</i>	<i>Event</i>			<i>Date</i>			<i>total</i>	
Results:									
Additional Criteria <i>If other criteria are important, add lines for setting targets and tracking</i>	Baseline	Y1		Y2		Y3		End of Project	
		<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>
	No. of Offices created	0	0	0	3	0	2		5

INDICATOR TITLE: Number of institutions with improved capacity to address climate change issues as a result of USG assistance (OP 3)									
UNIT: Number of Institutions	DISAGGREGATE BY: None								
	Geographic Location	Event			Date		total		
		3 Municipalities of Gori, Tbilisi, Poti attended on-job training in Data Collection and Analysis			October-December, 2014		3		
		3 Municipalities of Gori, Tbilisi, Telavi attended on-job training on inventory and planning in building, greening, public lighting, waste and transport sectors			January-March, 2015		1 (new)		
		3 Municipalities of Akhaltsikhe, Telavi, Tbilisi attended on-job training on strategic and technical aspects of SEAPs and MRV Report			April-June, 2015		1 (new)		
		2 Municipalities in Akhaltsikhe and Tbilisi attended on-job training on data collection and planning mitigation measures for transport, building, public lighting, greening and waste sectors			July-September, 2015				
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
No. of Institutions	0	9	10	5	5	0		14	

INDICATOR TITLE: Number of stakeholders using climate information in their decision making as a result of USG assistance (OP 4)									
UNIT: Number of Stakeholders	DISAGGREGATE BY: None								
	Geographic Location	Event		Date		total			
	Ministry of Energy, Ministry of Environment, Ministry of Economy, Ministry of Agriculture, Energy Efficiency Center, National Statistics Office of Georgia, Economic Council's Office , World Experience for Georgia	4 ministries and 4 other stakeholders participating in Sub-working Group (SWG), Expert Working Group (EWG) and Steering Committee (SC) meetings		October-December, 2014		8			
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
No. of Stakeholders	0	8	12	6	8	0		14	

INDICATOR TITLE: Number of laws, policies, strategies, plans, agreements or regulations addressing climate change mitigation officially proposed, adopted, or implemented as a result of USG assistance (OP 5)									
UNIT: Number of Laws, Policies, Strategies	DISAGGREGATE BY: <i>None</i>								
	<i>Geographic Location</i>	<i>Event</i>			<i>Date</i>			<i>total</i>	
Results:									
Additional Criteria <i>If other criteria are important, add lines for setting targets and tracking</i>	Baseline	Y1		Y2		Y3		End of Project	
		<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>
No. of Laws, Policies, Strategies	0	<i>1 proposed</i>	<i>1 proposed</i>	<i>1 proposed</i>		<i>1 adopted</i>		<i>1 adopted 2 proposed</i>	

INDICATOR TITLE: Number of climate change mitigation tools, technologies or methodologies developed, tested and/or adopted as a result of USG assistance (OP 6)									
UNIT: Number of Tools	DISAGGREGATE BY: None								
	Geographic Location		Event		Date		total		
	For all municipalities		Testing of the muni-EIPMP tool in all municipalities		October-December, 2014		1		
	For all municipalities		Testing of the muni-EIPMP tool in all municipalities		January-March, 2015				
	For all municipalities		Testing of the muni-EIPMP tool in all municipalities		July-September, 2015				
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	No. of Tools	0	1	2	2	2	2		5

Indicator Title: Number of households/ business/ public institutions implementing energy efficiency measures as a result of USG assistance (OP 7)									
UNIT: No. of electricity consumers implementing energy efficiency measures	DISAGGREGATE BY: None HH, Businesses, Institutions								
	Geographic Location	Event		Date			total		
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	No. of Households	0	0	0	500		1000		1500
	No. of businesses	0			2		8		10
	No. of institutions	0			2		8		10

Indicator Title: Number of climate change mitigation projects implemented as a result of USG assistance (OP 8)									
UNIT: No. of climate change mitigation projects	DISAGGREGATE BY: <i>None</i>								
	<i>Geographic Location</i>	<i>Event</i>			<i>Date</i>			<i>total</i>	
	<i>For all municipalities</i>								
Results:									
Additional Criteria <i>If other criteria are important, add lines for setting targets and tracking</i>	Baseline	<i>Y1</i>		<i>Y2</i>		<i>Y3</i>		<i>End of Project</i>	
		<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>	<i>Target</i>	<i>Achieved</i>
	No. of Projects	<i>0</i>	<i>0</i>	<i>0</i>	<i>5</i>	<i>0</i>	<i>15</i>		<i>20</i>

INDICATOR TITLE: Number of buildings labeled based on green building or energy efficiency standards (OP 9)									
UNIT: No. ofbuildings	DISAGGREGATE BY: Received, Approved								
	Geographic Location		Event			Date		total	
	Tbilisi		The following building were labeled: British Council in Georgia Office EUMM HQ EUMM GSS EUMM FO Gori EUMM FO Mtskheta EUMM FO Zugdidi EUMM Transport EUMM Warehouse			April-June, 2015		8	
			The following building were labeled: CoM signatory municipalities			July- September, 2015		24	
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	No. of Buildings	0	0	0	2	32	4		10

INDICATOR TITLE: Number of individuals reached through outreach campaigns (OP 10)									
UNIT: Number of Individuals	DISAGGREGATE BY: None								
	Geographic Location	Event	Date	total					
	Georgia	Public Service Announcement – airing of EC-LEDS Energy Efficiency PSA as a Social Advertisement on GPB Channel I	October 1-12, 2014 December 2-12, 2014	240, 000 individuals 75 individuals (54 – female, 21-male)					
	Kutaisi, Zugdidi, Batumi	Youth Energy Efficiency Event	December 16-18, 2014	165, 000 individuals					
	Batumi	Street Art - Energy Efficiency street painting on Batumi Port wall	October-December, 2014	A total of (Y2 Quarter 1)– 405,075					
	Georgia	TV Program Green Architecture airing on TV Channel Ertsulovneba	January 26-February 28, 2015	1286 individuals					
	Georgia	Public Service Announcement airing of EC-LEDS Energy Efficiency PSA as a Social Advertisement on GPB Channel I - A total of 58 spots	February 14-28, 2015	1,013,057 individuals					
	Tbilisi	Youth EE Event	March 1-8, 2015	133 individuals (47 – female, 86- male)					
	Gori	Youth EE Event	March 20, 2015	A total of (Y2 Quarter 2) – 1,014,476 individuals					
	Telavi	Youth EE Event	April 24, 2015	Total for Year 2 Quarter 1 and Quarter 2 – 1,419,551 individuals					
	Georgia	Outdoor advertising	May 11, 2015	31 individuals (27-female; 4-male)					
	Georgia	People reached through EC-LEDS Facebook	May-June, 2015	23 individuals (16-female; 7-male)					
	Georgia	Public Service Announcement on Public Broadcasting	April-June, 2015	105,750 individuals					
	Tbilisi	EC-LEDS Information Session for People with Disabilities (PWD)	September 30, 2015	1810 individuals					
	Georgia	Public Service Announcement airing of EC-LEDS Energy Efficiency PSA as a Social Advertisement on Rustavi 2, GPB I and Imedi Channels	July-September, 2015	497,963 individuals					
	Georgia	People reached through EC-LEDS Facebook – 2454 individuals	July-September, 2015	Total for Quarter 3 – 605,577 individuals					
Total for Y2 Q1-Q3=2025128 individuals									
14 individuals (6-female, 8-male)									
612,880 individuals									
2454 individuals									
Total for Y2 =2640476 individuals									
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
No. of Individuals	0	250,000	254,157	500,000	264,047	250,000		1 million	

INDICATOR TITLE: Number of USG-supported training or activities that contribute to building the EE knowledge and skills in the GOG, Municipalities, industry and other stakeholders (OP 11)										
UNIT: Number of Training activities	DISAGGREGATE BY: None									
	Geographic Location	Event	Date				total			
	Gori, Tbilisi, Poti	“On job training in the sectors of public lighting, transport, waste, building, waste water management, greening on data collection and analysis”	October-December 2014				Total for Year 2=22			
	Tbilisi	Training-workshop "Inventory of GHGs, development of a Business as Usual (BAU) scenario and mitigation measures in transport, outdoor lighting and building sectors"	27 November, 2014							
	Tbilisi	Training of the professionals in green building principles, application of LEED and BREEAM rating tools	September 30 – October 1, 2014							
	Gori, Tbilisi, Telavi	On-job trainings in inventory and planning in building, greening, public lighting, waste and transport sectors	January-March, 2015							
	Tbilisi	Training-workshop on piloting and testing muni-EIPMP tool in waste and greening sectors for Khashuri, Akhaltsikhe, Tbilisi, Poti, Ozurgeti, Zugdidi, Mtskheta, Telavi, Batumi, Kutaisi, Tianeti municipalities	February 25, 2015							
	Tbilisi	Workshop on comparison of the EPBD and IECC building energy performance requirements	February 24, 2015							
	Telavi, Akhaltsikhe, Tbilisi	On-job training on strategic and technical aspects of MRV report and SEAPs for Telavi, Akhaltsikhe and Tbilisi municipalities	April-June, 2015							
	Tbilisi	Preparation of Project Proposals for the GHGs mitigation measures to be implemented in the sectors considered in SEAPs	August 4-5, 2015							
	Tbilisi and Akhaltsikhe	On-job training on Data collection and planning mitigation measures for transport, building, public lighting, greening and waste sectors	July-September, 2015							
	Tbilisi	Display labeling training	July, 2015							
	Rustavi, Akhaltsikhe, Kutaisi, Batumi, Zugdidi	Display labeling training (5 workshops)	August, 2015							
Results:										
Additional Criteria If other criteria are important, add lines for setting targets and tracking			Y1		Y2		Y3		End of Project	
			Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
		Baseline								
No. of Training activities		0	6	10	30	22	14		50	

EC-LEDS CLEAN ENERGY PROGRAM YEAR TWO ANNUAL REPORT (OCT 2014 – SEPTEMBER 2015)

INDICATOR TITLE: Number of individuals receiving USG supported training in technical energy fields (OP 12)										
UNIT:	DISAGGREGATE BY: None									
No. of individuals	Geographic Location	Event	Date		total					
	Gori, Tbilisi, Poti	“On job training in the sectors of public lighting, transport, waste, building, waste water management, greening on data collection and analysis” Training-workshop "Inventory of GHGs, development of a Business as Usual (BAU) scenario and mitigation measures in transport, outdoor lighting and building sectors" Training of the professionals in green building principles, application of LEED and BREEAM rating tools On-job trainings on inventory and planning in building, greening, public lighting, waste and transport sectors Training-workshop on piloting and testing muni-EIPMP tool in waste and greening sectors for Khashuri, Akhaltsikhe, Tbilisi, Poti, Ozurgeti, Zugdidi, Mtskheta, Telavi, Batumi, Kutaisi, Tianeti municipalities Workshop on comparison of the EPBD and IECC building energy performance On-job training on strategic and technical aspects of MRV reports and SEAPs Preparation of Project Proposals for the GHGs mitigation measures to be implemented in the sectors considered in SEAPs On-job training on Data collection and planning mitigation measures for transport, building, public lighting, greening and waste sectors Display labeling training (5 workshops)	October-December 2014		12 (3 female, 9 male)					
	Tbilisi		27 November, 2014		12 (3 female, 9 male)					
	Tbilisi		September 30 – October 1, 2014		12 (2 female, 10 male)					
	Gori, Tbilisi, Telavi		January-March, 2015		A total of 36 individuals for Quarter 1, Year 2 15 participants (1 – female, 14 – male)					
	Tbilisi		February 25, 2015		11 participants (3 – female, 8-male)					
	Tbilisi		February 24, 2015		28 participants (10 – female, 18-male)					
	Tbilisi		April-June, 2015		A total of 54 individuals for Quarter 2, Year 2 A total of 90 individuals for Quarters 1 and 2, Year 2 32 participants (7-female, 25-male) A total of 122 participants for Quarter 3, Y2					
	Tbilisi and Akhaltsikhe		August 4-5, 2015		22 individuals (5-female, 17-male)					
	Rustavi, Akhaltsikhe, Kutaisi, Batumi, Zugdidi		July-September, 2015		10 individuals (3 female, 7 male)					
			August, 2015		53 individuals (3-female, 50 male)					
				Total for Y2 = 207 individuals						
Results:										
Additional Criteria If other criteria are important, add lines for setting targets and tracking		Baseline	Y1		Y2		Y3		End of Project	
			Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
No. of Individuals		0	50	76	50	207	0		100	

INDICATOR TITLE: Value of grants disbursed as a result of USG assistance for scientific research and energy efficiency pilot projects (OP 13)									
UNIT: Value of grants distributed	DISAGGREGATE BY: None								
	Geographic Location		Event		Date		Total		
	For all municipalities								
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
Value of grants	0	0	0	300,000		200,000		500,000	

INDICATOR TITLE: Number of promotional plans and campaigns implemented to increase awareness of citizens about energy efficiency (OP 14)									
UNIT:	DISAGGREGATE BY: None								
No. of Plans	Geographic Location	Event			Date		total		
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	No. of Plans	0	2	2 (Implementation Ongoing)	2	2	2	2	2

INDICATOR TITLE: Number of beneficiaries receiving improved infrastructure services due to USG assistance (OP 15)									
UNIT: No. of beneficiaries receiving improved infrastructure services	DISAGGREGATE BY: <i>None</i>								
	<i>Geographic Location</i>	<i>Event</i>			<i>Date</i>		<i>total</i>		
Results:									
Additional Criteria <i>If other criteria are important, add lines for setting targets and tracking</i>	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	No. of Beneficiaries	0	0	0	1		2		3

INDICATOR TITLE: Number of individuals receiving USG supported training in energy related policy and regulatory practices (OP 16)				
UNIT: No. of individuals	DISAGGREGATE BY: None			
	Geographic Location	Event	Date	Total
	Gori, Tbilisi, Poti	"On job training in the sectors of public lighting, transport, waste, building, waste water management, greening on data collection and analysis"	October-December 2014	12 (4 female, 9 male)
	Tbilisi	Training-workshop "Inventory of GHGs, development of a Business as Usual (BAU) scenario and mitigation measures in transport, outdoor lighting and building sectors"	November, 27, 2014	12 (4 female, 9 male)
	Tbilisi	Planning Team Meeting	October 01, 2014	12 participants (6 female, 6 male)
	Tbilisi	LEDS EWG Meeting	October 02, 2014	12 participants (6 female, 6 male)
	Tbilisi	Industry SWG Meeting	November 10, 2014	9 participants (4 female, 5 male)
	Tbilisi	Planning Team Meeting	November 11, 2014	7 participants (5 female, 2 male)
	Tbilisi	Forestry SWG Meeting	November 25, 2014	10 participants (3 female, 7 male)
	Tbilisi	On-job trainings on inventory and planning in building, greening, public lighting, waste and transport sectors	January-March, 2015	Total for Quarter 1, Year 2 is 76 individuals (32 female, 44 male) 15 participants (1 – female, 14 – male)
	Gori, Tbilisi, Telavi	Training-workshop on piloting and testing muni-EIPMP tool in waste and greening sectors for Khashuri, Akhaltsikhe, Tbilisi, Poti, Ozurgeti, Zugdidi, Mtskheta, Telavi, Batumi, Kutaisi, Tianeti municipalities	February 25, 2015	11 participants (3 – female, 8-male)
	Tbilisi	Workshop on comparison of the EPBD and IECC building energy performance	February 24, 2015	28 participants (10 – female, 18-male)
	Tbilisi	Forestry SWG Meeting	February 5, 2015	14 participants (5 –female, 9-male)
	Tbilisi	Building SWG Meeting	February 19, 2015	22 participants (13 –female, 9-male)
	Tbilisi	Steering Committee Meeting (SCM)	February 20, 2015	27 participants (17 –female, 10-male)
	Tbilisi	Building SWG Meeting	February 26, 2015	14 participants (8 –female, 8-male)
	Tbilisi	Forestry SWG Meeting	March 10, 2015	19 participants (9–female, 10-male)
	Tbilisi	Transport SWG Meeting	March 18, 2015	27 participants (10–female, 17-male)
	Tbilisi	Energy SWG meeting	March 30, 2015	16 participants (10–female, 6-male)
	Tbilisi, Akhaltsikhe, Telavi	On-job training on strategic and technical aspects of MRV reports and SEAP	April-June, 2015	Total for Quarter 2, Year 2 is 193 individuals (84 female, 109 male) Total for Quarters 1 and 2, Year 2 is 269 individuals (116 female, 153 male) 32 participants (25- female, 7-male)
	Tbilisi	Preparation of Project Proposals for the GHGs mitigation measures to be implemented in the sectors considered in SEAPs	August 4-5, 2015	Total for Quarters 1-3 is 301 individuals (141 female, 160 male)
	Tbilisi and Akhaltsikhe	On-job training on Data collection and planning mitigation measures for transport, building, public lighting, greening	July-September, 2015	22 individuals (5-female, 17-male)
				10 individuals (3 female, 7 male)

INDICATOR TITLE: Number of individuals receiving USG supported training in energy related policy and regulatory practices (OP 16)									
	Rustavi, Akhaltsikhe, Kutaisi, Batumi, Zugdidi	and waste sectors Display labeling training (5 workshops)	August, 2015					53 individuals (3-female, 50 male)	
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
No. of Individuals	0	40	137	50	386	0		90	

INDICATOR TITLE: Number of MRV plans developed to track impact of SEAPs implementation(OP 17)									
Unit: No. of Plans	Disaggregate by: None								
	Geographic Location		Event		date			total	
	Gori		MRV Plan for Gori SEAP developed		March 2015			1	
	Tbilisi		MRV Plan for Tbilisi SEAP Developed		June, 2015			1	
	Akhaltzikhe		MRV Plan for Akhaltsikhe SEAP Developed		September, 2015			1	
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2,		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
No. of Plans	0	4	4	3	3	3		10	

INDICATOR TITLE: Number of individuals at national and local level trained in climate change as a result of USG assistance (OP18)										
UNIT: No. of Individuals	DISAGGREGATE BY: None									
	Geographic Location	Event			Date	total				
	Gori, Tbilisi, Poti	“On-job training in the sectors of public lighting, transport, waste, building, waste water management, greening on data collection and analysis”			October-December 2014	12 (3 female, 9 male)				
	Tbilisi	Training-workshop "Inventory of GHGs, development of a Business as Usual (BAU) scenario and mitigation measures in transport, outdoor lighting and building sectors"			27 November, 2014	12 (3 female, 9 male)				
	Tbilisi	Training of the professionals in green building principles, application of LEED and BREEAM rating tools			January-March, 2015	12 (2 female, 10 male)				
	Gori, Tbilisi, Telavi	On-job trainings on inventory and planning in building, greening, public lighting, waste and transport sectors			February 25, 2015	A total of 36 individuals for Quarter 1 , Year 2				
	Tbilisi	Training-workshop on piloting and testing muni-EIPMP tool in waste and greening sectors for Khashuri, Akhaltsikhe, Tbilisi, Poti, Ozurgeti, Zugdidi, Mtskheta, Telavi, Batumi, Kutaisi, Tianeti municipalities			February 24, 2015	15 participants (1 – female, 14 – male)				
	Tbilisi, Akhaltsikhe, Telavi	Workshop on comparison of the EPBD and IECC building energy performance			April-June, 2015	11 participants (3 – female, 8-male)				
	Tbilisi	On-job training on strategic and technical aspects of MRV and SEAP reports			August 4-5, 2015	28 participants (10 – female, 18-male)				
	Tbilisi and Akhaltsikhe	Preparation of Project Proposals for the GHGs mitigation measures to be implemented in the sectors considered in SEAPs			July-September, 2015	A total of 54 individuals for Quarters 1 and 2 , Year 2				
Rustavi, Akhaltsikhe, Kutaisi, Batumi, Zugdidi	On-job training on Data collection and planning mitigation measures for transport, building, public lighting, greening and waste sectors			August, 2015	32 participants (25-female, 7-male)					
Display labeling training (5 workshops)					A total of 86 participants for Q1-Q3					
					22 individuals (5-female, 17-male)					
					10 individuals (3 female, 7 male)					
					53 individuals (3-female, 50 male)					
					In total for Year 2=171 participants					
Results:										
Additional Criteria If other criteria are important, add lines for setting targets and tracking		Baseline	Y1		Y2		Y3		End of Project	
			Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
No. of Individuals		0	10	67	40	171	20		70	

Indicator Title: Number of developers, investors/building owners/buyers aware of the green building rating and certification system (OP 19)										
Unit: Number of Businesses	Disaggregated by: None									
	Geographic Location		Event			Date				total
	Tbilisi		Meetings with leading companies and organizations: Heidelberg Georgia, AmCham, Cushman and Wakefield, Colliers International, Deloitte			December, 15-19, 2014				5
	Tbilisi		Meetings with leading companies and organizations: Award LLC Association of Developers of Georgia, New Light,Inex Pro, Arci LLC			April-June, 2015				5
	Georgia		Meetings with representatives of 13 CoM signatory municipalities participated in the workshop dedicated to the energy labeling of the buildings with Display			August, 2015				13
Results:										
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Results Achieved by Q2, 2014	Y1		Y2		Y3		End of Project	
		Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
No. of Businesses	0	14	10	14	20	23	0		0	

INDICATOR TITLE: Number of decisions made by LEDS steering committee or involved agencies using analysis based on MARKAL or other appropriate tools (OP22)									
UNIT: Number of decisions	DISAGGREGATE BY: None								
	Geographic Location	Event			Date		total		
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
	No. of decisions		0	0	2		2		4

INDICATOR TITLE: Number of individuals trained on green building rating systems (OP23)									
UNIT: No. of individuals trained	DISAGGREGATE BY: Gender								
	Geographic Location		Event		Date		Total		
	Tbilisi		Training of professionals in green building principles, application of LEED and BREEAM rating tools		September 30-October 1, 2014		12 participants (2- females, 10-males)		
	Tbilisi		Workshop on comparison of the EPBD and IECC building energy performance		February 24, 2015		28 participants (10 – female, 18-male)		
	Tbilisi		Workshop on display labeling		July, 2015		9 individuals		
Rustavi, Akhaltsikhe, Kutaisi, Batumi, Zugdidi		Display labeling (5 workshops)		August, 2015		53 individuals (3-female, 50 male)			
						Total 102 Individuals for Year 2			
Results:									
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Y1		Y2		Y3		End of Project	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
				10	102				
	0	0	0	10	40	0		10	

Annex I: Success Stories



USAID
FROM THE AMERICAN PEOPLE

GEORGIA

SUCCESS STORY

Youth Education Is A Solution For Wider Accessibility To Energy Efficiency

Energy Efficiency Is A Smart Choice - USAID supported youth empowerment through energy efficiency education in West Georgian schools.



"Participation in the information session on Energy Efficiency helped me and my peers to learn about energy saving issues, which was really new for us. After the seminar I am confident that energy efficiency is certainly a reasonable choice. I was especially impressed by quiz that followed the seminar to assess obtained knowledge by students and was very effective."

— Lorena Parjikia, 10th grade Student from Village Chankviji Public School, Zugdidi Municipality

U.S. Agency for International Development
www.usaid.gov

75 students from Kutaisi, Zugdidi and Batumi schools took part in a Youth Energy Efficiency Event in December 2014. The USAID-supported Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program empowered youth through training on energy efficiency and renewable energy technologies. The main objective was to involve youth in energy efficiency, contributing to climate change mitigation. Children were introduced to the importance of energy efficiency, how to conduct an energy audit, energy efficient technologies and simple tips to save energy at home, and donor funded energy efficient/renewable energy and climate change projects.

The students were selected from civic clubs that unite students in grades 9 to 12 throughout Georgia, facilitating youth involvement and, through civic education, promoting transparent and accountable governance. Students from Kutaisi, Zugdidi and Batumi participated in a contest "Energy Efficiency Is A Smart Choice". They were given simple energy efficiency tests covering the session topics with the top three winners receiving medals. All students were awarded participation certificates.

Students were excited about the information learned and some of them even decided to apply to the undergraduate energy program at the Georgian Technical University. "During the seminar I learned how to save energy. Now I think that each family should save energy as it is directly connected to state budget savings and development of other fields"- Maia Avaliani, 10th grade student from village Grigolishi Public School in Zugdidi. After the event, students made commitments to conduct simple home energy audits and spread the word about energy saving measures in their families and schools.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy activities. The event was organized with the support of PH International within the framework of the USAID-supported "Momavlis Taoba" (Future Generation) Program which sponsors the civic clubs.



SUCCESS STORY

Green Architecture – Education Through TV Programming

USAID supported a unique youth TV program focused on green architecture



"This is the first step towards raising awareness of green building and related issues. I was amazed to hear that the most interested audience of our program was young people from 14-18 years of age. The results have exceeded my expectations."

— Tina Khimshiashvili, Green Architect, President of Georgian Association of Landscape Architects, author and host of the program.

U.S. Agency for International Development
www.usaid.gov

During the months of January and February 2015, TV Channel Ertulovneba aired a series of programs on Green Architecture every Thursday evening. The programs, approximately 30 minutes in length, focused on green building and its impact on the environment, energy efficiency, green materials, climate change and green building certification systems.

The program was supported by the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program as part of its Green Building public awareness campaign. The author of the Program, Professor Tina Khimshiashvili who is also President of the Georgian Association of Landscape Architects (GALA), hosted guests from academia, the municipality of Tbilisi, organizations involved in architecture and the building sector and independent experts. Students from Georgian Technical University, Tbilisi State Academy of Arts and Ilia State University asked questions of guest speakers and expressed their opinions during the program.

The primary goal of the program was to reach and educate youth about green building in Georgia. Initial feedback suggests that the Green Architecture series helped spread the word about green building among broader audiences of all ages and social groups. "I hope that young architects will pay more attention to the issue of green building, which is not yet fully explored and that they will generate new ideas in green architecture." – Professor Giga Batiashvili, Architect.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this program, USAID supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy activities. The program was produced in cooperation with the Green Building Council Georgia (GBC Georgia) and the Georgian Association of Landscape Architects (GALA), with the support of TV Channel Ertulovneba.



SUCCESS STORY

Best Green Design 2015 – Youth Empowerment through Competition

The USAID-supported EC-LEDS Clean Energy Program created a special award for the Student Architectural Contest: Best Coursework Design 2015



"I have been taking part in this contest annually, and have never won the Best Green Design Award. My prize-winning project is my Diploma thesis entitled Wine Factory. My purpose was to stress that "popular technologies" can also be energy efficient, including the production of wine in a qvevri (traditional clay wine-making vessel), and by the combination of traditional and modern design."

— Tamar Benashvili, MA student at GTU Architectural faculty, winner of EC-LEDS Special Award.

U.S. Agency for International Development
www.usaid.gov

Twelve students from Georgian universities took part in the annual student architectural contest under the aegis of the EU Sustainable Energy Week 2015. The purpose of the contest was to identify the best project focusing on sustainable development and green building principles; participants were required to apply green/energy-efficient building principles. A Green Building (GB) is a structure that has been created using environmentally responsible and resource-efficient construction methods throughout its life-cycle. A GB is known as a sustainable building, designed, built, renovated, operated and used in an ecological and resource-efficient manner. It requires close cooperation between the design team, the architects, the engineers and construction companies as well as the end-user or client, during all project stages.

As part of their GB public awareness campaign, EC-LEDS established a special award for the Best Green Building Design 2015. The prize was awarded to a student in the MA Program in Architecture at Georgian Technical University, Tamar Benashvili, for her Diploma thesis, considered the "Best Theoretical Analysis of Energy Efficiency Principles". The winning design, entitled Wine Factory, illustrated the construction of a wine factory in Kakheti. The project site is located in Kakheti, not far from Alazani river valley. Visual materials of the project consisted of the site master plan, floor plans, facades, cross sections and scaled details. Theoretical work was submitted separately, and three dimensional views were merged with landscape photos to give a life-like perception of the site.

The author conducted a comprehensive pre-design site assessment including a study of the territory, weather conditions, landscape and access/transport. Benashvili demonstrated the best understanding of pre-design study and showed good survey skills, which are the basis for good environmental design.

The Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program is supported by USAID and implemented by Winrock International Georgia.



SUCCESS STORY

Building Energy Labeling by DISPLAY – A Catalyst for Behavior Change

**USAID supports
DISPLAY energy
performance labeling
to communicate the
energy performance
of Georgian municipal
buildings**



"DISPLAY is an official program used by European cities for SEAP monitoring reports. It will let us evaluate the physical and economic conditions of our buildings and thus meet the requirements of the Covenant of Mayors".

— Gia Gasashvili, Head of Infrastructure, Economic Strategy and Investment Policy Department, Zugdidi City Hall.

U.S. Agency for International Development
www.usaid.gov

"Display" is a powerful tool to manage existing building energy efficiency. This tool is used by more than 400 municipalities in 27 countries, and contributes to carrying out the European Building Performance Directives that will become mandatory for Georgia. Georgian legislation is being harmonized with European laws, a process that began recently by signing the European Association Agreement.

In Georgia, Display was originally intended for municipalities that are signatories to the Covenant of Mayors. It has now become a management instrument for other interested parties as well, including NGOs, ministries, and the private sector. Display was selected as a labeling tool by the EC-LEDS project due to its simplicity and wide range of data coverage. It was chosen by the EC-LEDS program among other systems for building certification, because it covers many aspects, is user-friendly and accessible from any work station. Display goes beyond the Energy Performance of Buildings Directive (EPBD), and covers water use and recommendations for improvements.

For Georgian building stock operators Display can be a tool for more sustainable building operation. The Green Building Council- Georgia (GBC-Ge), a local EC-LEDS partner, plans to label more municipal and private buildings next year, setting ambitious targets to reduce GHG emissions in Georgian municipalities over the following years. In August 2015, GBC-Ge, with support from the Municipalities of Rustavi, Akhaltsikhe, Kutaisi, Zugdidi and Batumi labeled a total of 17 municipal buildings.

The EC-LEDS Clean Energy Program is funded by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy activities.

Annex 2: Media Plan of Airing EC-LEDS EE PSAs on National TV Channels

Table 6

TV Channel	Airing Period	Number of Spots
Channel 1	28-Sep-2014 - 12-Oct-2014	57
Channel 1	15-Feb-2015 – 28-Feb-2015	35
Channel 1	01-Mar-2015 – 08-Mar-2015	23
Channel 1	01-Apr-2015 – 30-Apr-2015	112
Tabula	01-May-2015 – 31-May-2015	674
Tabula	01-Jun-2015 – 18-Jun-2015	427
Imedi	30-Jun-2015 – 16-Jul-2015	102
Channel 1	01-Aug-2015 – 31-Aug-2015	109
Rustavi2	04-Sep-2015 – 13-Sep-2015	80
Channel 1	01-Sep-2015 – 22-Sep-2015	61

Annex 3: Media Coverage Report (January, 2015-September, 2015)

TV Channel:	Ertsulovneba
Date:	January 22, 2015
Title:	Morning Show Gantiadi

Host: We are back live from our studio with our guests. TV Channel Ertsulovneba is starting a new series of TV programs entitled “Green Architecture”. We are hosting the supporters of this program today in our studio: Ms. Dana Kenney is Chief of Party of the project Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy program, implemented by Winrock International Georgia and supported by US Agency for International Development (USAID) and Ms. Eka Kentchadze will assist us in interpreting. Thank you for coming. First question: what are the aims and objectives of Winrock International Georgia?

Dana Kenney: Here in Georgia Winrock International is implementing a USAID-supported project entitled Enhancing Capacity for Low Emission Development Strategies or EC-LEDS Clean Energy Program, to support climate change mitigation. This includes reducing climate change pollutants and promoting energy efficiency and clean energy.

Host: What exactly do you mean by energy efficiency and how can we contribute to climate change mitigation?

Dana Kenney: Energy efficiency can be increased in any field. People often think of it as making buildings more energy efficient, for example with insulation. It can also be promoting energy efficient vehicles and other means of transportation that use less energy; more efficient methods of cooking; and it can be carried out in every sector like agriculture and building.

Host: How long has this organization existed and how efficient have its projects been?

Dana Kenney: Winrock International Georgia has been working almost ten years on clean energy projects including rural energy, clean energy and energy efficiency in urban areas. The current program began in October 2013, so we have been carrying out this program for about a year. We have three more years and will help prepare at least one or more other organizations to take over the primary activities, such as working with municipalities and the private sector to promote energy efficiency and climate change.

Host: Do you cooperate with the Ministry of Energy?

Dana Kenney: Yes, we do, and not only with the Ministry of Energy. We have different counterparts depending on which of three components we are working on. In the first component we work with at least ten municipalities who are either currently signing or have already signed the EU’s Covenant of Mayors agreeing to reduce emissions and improve their economic development.

Host: The program has a very interesting title – Green Architecture. What do you mean by this title?

Dana Kenney: I would like to explain why the concept of Green Building is important and how we can move it forward. Buildings are one of the largest users of energy worldwide, and that is true in Georgia, although the transport sector uses more energy and has more emissions. Buildings also have many other resources that impact the environment, like water use, construction materials, waste disposal, etc. All of those are issues that are addressed by municipalities under Sustainable Energy Action Plans. But at the same time buildings and transport are the only ones that are required that they address. Green buildings are not only energy efficient-- they minimize resources and the impact of construction and household activities on the environment.

Host: How did you contact our TV Channel and why did you prefer that our channel air this program?

Dana Kenney: What we have been doing is working with the private sector to educate and train people to certify buildings. We want to continue to raise awareness about architecture, green building and the benefits of green architecture, especially for health and indoor air pollution, to breathe better and reduce costs. This TV show is really the beginning of our public outreach efforts. We have been working with the architect stakeholders. Believe it or not, there are already architects building green in Georgia.

Host: It should be mentioned that the host of Green Architecture is Ms. Tinatin Khimshiashvili, who is the President of the Georgian Association of Landscape Architects.

Dana Kenney: She proposed a series of shows that will go from the concept of green building all the way to details, and to involve youth. We have a strong commitment to involving youth, and it is a perfect opportunity to introduce these concepts and educate people. I think we chose this TV station because your viewers' interest.

Host: Let us thank you on behalf of TV Channel Ertsubovneba for this cooperation. We hope that the results will be positive and large-scale. My last question is how green is our country in your opinion?

Dana Kenney: The natural environment-- yes. As for the built environment, there is an opportunity to better synchronize it with nature and to do more to promote the population's health.

Host: Thank you! We wish you good luck!



TV Channel:	Ertsulovneba
Date:	January 22, 2015
Title:	Green Architecture
Host:	Tina Khimshiashvili, Green Architect, Professor, President of Georgian Association of Landscape Architects (GALA)
Guests:	Giga Batiashvil, Architect, Professor; Ia Kupatadze, Architect, Expert; Natia Kapanadze (MA), Landscape Architect, Member of GALA; students from Ilia State University and the Georgian Academy of Arts

Host: Dear viewers, I am the host of the program Green Architecture, Tina Khimshiashvili. I would like to read a small passage from Ilia Chavchavadze's letter describing the Old Tbilisi environment and architecture: "How different was Tiflis in ancient times with its gardens and parks that had a positive impact on the climate. Winter wasn't as cold as today, and summer was cool. Our city needs to have walking areas for pedestrians and parks that give a new life to our city Tiflis." This was written nearly one century ago. Today our city is bigger, with a larger population and ecological problems that are more evident. Soil, water and air are contaminated with various kinds of pollutants and green zones are drastically limited. In the 21st century Green Architecture has changed and gained a new form. My question is, what can we say about modern Green Architecture?

Giga Batiashvili: First of all, let's talk about Green Architecture itself. We call architecture an artificial environment, yet architecture is created from natural and live materials. Gardens, parks and recreation zones are examples of green architecture. We can say that Green Architecture originated in ancient times. Our ancestors lived in caves and the hollows of trees, which could be considered the roots of Green Architecture. With progress and modernization green architecture became more organized, and took the form of gardens, parks etc. In the second half of the 20th century a new tendency was to connect exterior and interior; green architecture meant that more green is brought into indoor spaces. This notion refreshes the built environment and makes it more comfortable. Today using "green" we can generate energy resources for the future years. Today we use different types of resources for energy generation. In the future there it could be possible to use hydrogen. There are alternatives to avoid the destruction of nature, to use it wisely and thus help its regeneration. Therefore, green architecture has two benefits-- one can use it as an alternative energy resource that will reduce hazardous impacts on the environment and at the same time it will increase comfortable living conditions. So I hope that young architects will pay more attention to this issue, which is not yet fully explored, and that they will be generators of new ideas in green architecture.

Host: Let us have a short historical review of examples in Green Architecture--among them the famous Chinese, Japanese and French gardens, Central Park of New York, green areas/zones between towns and the modern types like the Gardens of Semiramida. New buildings with green zones designed by the architectural bureau WOHA have received the LEED Gold Certificate. Upcoming programs will be dedicated to the LEED and BREEAM Certification system, in order to understand their importance for green building certification. This is the background of green building, and now my question is about the meaning of green building today.

Ia Kupatadze: Modern green building refers to a building that damages the environment less and can generate energy itself. In other words, we can say it is a building that operates using its own resources, and we can compare such a building to a tree that exists through its own natural resources.

Host: Dear students, you can ask questions or express your opinion about green building.

Irakli Kirkitadze MA Student: As you explained, “green building” means operating on its own energy and generating energy as well. What kind of energy do you mean?

Ia Kupatadze: There are a variety of ways a building can generate energy. Solar energy can provide electricity and hot water. We can use rain water for technical purposes--cooling or heating. It subsequently needs purification, but this is not a difficult process. We can use it in the basement as well for ventilation and heating. Even wind can be used to generate electricity.

Host: what are the advantages of the indoor environment of a green building compared to a traditional building?

Ia Kupatadze: First of all, the indoor environment of a green building regulates air quality. There are special sensors that clean the air, and do not need much energy. One can find wooden materials and plants that create indoor micro-climates in green buildings.

Giga Batiashvili: Sun is our energy for living. So if we use its potential to a maximum, we will gain in terms of electricity, heat and nature as well. We said that we have solid experience in landscape design, and architects who design gardens, parks and other recreation place. Now it is time to have more comfort in the buildings where we spend the most of our time. Green can be brought into indoor environment that will improve significantly our comfort and our major need of energy.

Ia Kupatadze: In the past we had a lot of the so-called “sick” buildings, in other words, buildings without sun or ventilation. Today the situation has changed and more green buildings are being constructed. People prefer to live and work in healthier environments, and green buildings provide this.

Vladimer Afanasievi, Student: Can you talk about green buildings in Tbilisi?

Ia Kupatadze: There is one such building in Tbilisi. The Center of New Technologies is a green building at the entrance of Tbilisi that uses natural resources: daylight for lighting and it has its own resources for technical water. It has a garden inside for employees to relax. So this building by its design and technical parameters is a good example of a green building. There is a residential building in Tbilisi as well, built by the ARSI company that is more energy-efficient than green.

Host: A green building conference was held in the New Technologies Center, and experts mentioned that this building had all parameters to gain a LEED certificate immediately. Now I'd like to attract your attention to the issue of environmental improvement. It is a complex issue and it will be good to hear from young generation.

Natia Kapanadze, MA Student: As a citizen I want to stress the lack of nature in my life. It is important for personal development. In the big city like Tbilisi it is very hard to be in contact with nature, so I have a question: what should be done to accelerate this process, to have visible results in a very short period of time and not after, say, 50 years?

Giga Batiashvili: We know that results for any developing process can be visible some time later. The same situation we face with regard to green building, but the core issue here is demand from the society, its awareness and benefits. Public opinion is very important and Government has to respond to this demand. Decisions, approvals or rejections, must be made on the basis of society's welfare. Legislative regulations are very important as well. We had a good tradition in Tbilisi--yards with a tree in the center and a small fountain. Tbilisi was traditionally surrounded by green slopes that created a natural wall and had a very good impact on the city's environment. But over time slopes were deforested for heating resources. In times of progress, innovations should be introduced, like installing air filters throughout the city. We know that Tbilisi has strong wind potential so this type of filter could clean and distribute fresh air from zone to zone.

Natia Kapanadze: This situation is similar for the entire world. There are a number of groups working on this issue; they create public demand and afterwards push this idea to the political level to attract attention from the authorities. In Georgia we have a landscape architects' association that seeks to create much tighter links between people and nature.

Host: The Green Building Council Georgia and Winrock International Georgia are involved in popularizing the green building and certification system. Ia, what can you say about your activities?

Ia Kupatadze: Certification systems were introduced in the early 1990s. There are certification systems like BREEAM and LEED. LEED is an American system created by association of professionals - engineers, developers, designers, materials producers. To promote this system they established an annual contest and awarded 10 buildings with a LEED certificate each year. With this promotional campaign, building constructors and owners were interested in winning the certificate, and to thus attract more clients.

Vladimer Gai, Student: Do we have information about our cultural heritage of energy efficient measures. Can we find energy efficient techniques in our churches, old houses and settlements?

Ia Kupatadze: You can find examples in the Georgian Ethnographic Museum, where different houses from Georgian regions are represented. For example, a house from the Kartli region has a first floor that is buried in the ground. The floor earthen and light comes from the top in the roof, while heating and cooling are done by the earth. You can find an interesting house in west Georgia that is built on poles for ventilation and to avoid moisture. Made from wood, its attic provided ventilation. There are suggestions for green architecture found in historical houses.

Host: We will continue talking about green architecture in the next programs. Should you have questions, please send them to the following address: Greenarchitecture@ersulovneba.ge and the Facebook page – Green Architecture. The program Green Architecture is supported by Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program supported by USAID and implemented by Winrock International Georgia.



Web source:	CENN Network
Date:	January, 26, 2015
Title:	The First Release of “Green Architecture” – A Youth TV Program to Raise Awareness of Green Building in Georgia

The Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program supports a youth TV Program focused on Green Architecture as part of its Green Building public awareness campaign.

The first program was aired on Thursday, January 22nd on TV Channel Ertulovneba. The author and host of the Program was Professor Tina Khimshiashvili, President of Georgian Association of Landscape Architects (GALA). Also participating were Professor and Architect Gia Batiashvili, Architect Ia Kupatadze from the Green Building Council Georgia (GBCGeorgia) and Architect Natia Kapanadze, Member of GALA. Professor Khimshiashvili and participants discussed the importance and the concept of green building with students from the Tbilisi State Academy of Arts and Ilia State University.

The TV Program is being implemented by Georgian Association of Landscape Architects (GALA) in cooperation with TV Channel Ertulovneba and Green Building Council Georgia (GBCGeorgia). The program will be aired every Thursday at 21:30 on TV Channel Ertulovneba.

Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program is supported by the US Agency for International Development (USAID) and implemented by Winrock International Georgia.

For more information please contact:

Irina Sulava

Public Awareness/Outreach Manager

Winrock International Georgia

5 99 579105

isulava@winrock.org

Please follow the link to watch videos:

<https://www.youtube.com/watch?v=PDZRgNEeb5Y> (Announcement/Morning Show Gantiadi)

<https://www.youtube.com/watch?v=hYYrz4NWDck> (First program 01/22/2015)

TV Channel:	Ertsulovneba
Date:	January 29, 2015
Title:	Green Architecture
Host:	Tina Khimshiashvili, Green Architect, Professor, President of the Georgian Association of Landscape Architects (GALA)
Guests:	Professor Gia Arabidze, Dean of Energy and Telecommunications Faculty at Georgian Technical University; Khatuna Sitchinava, Director of Sustainable Energy and Environment Union, Expert; Students from faculty of Energy at GTU.

Host: Today our guests are the Dean of Energy and Telecommunications Faculty at Georgian Technical University, Professor Gia Arabidze, Director of Sustainable Energy and Environment Union, Expert Khatuna Sitchinava and students from faculty of Energy at GTU. We will talk about an interesting topic called energy efficiency. We will learn what energy efficiency is and why it is important for us.

Gia Arabidze: Let me greet participants of today's show and thank the organizers of this program for inviting me. I think that this program is very important for general audience as well as for students. You asked a very important question – what is energy efficiency? There are many explanations, but most precisely it means living in better conditions and spending less money. The place where we are now has significant energy expenses and low efficiency. If our residential buildings could comply with EU standards, for instance, if they had building envelopes with thermal insulation like in EU countries, we would have spent around 100-150 GEL during the whole heating season and live more comfortably. Today 100-150 GEL covers around 120m² area heating. In Tbilisi savings on heating mean that many only use part of the house and not the entire apartment. Imagine how much we could save in financial resources and increase our comfort in apartments if we could heat more efficiently!

Host: I know there is a methodology to conduct an energy audit of buildings. What can you say about it? Who can residents or government ask for such an audit?

Gia Arabidze: I would like to stress the importance of an energy audit. The concept is vast, but for any household or individuals it is necessary to create such a center. This was discussed not only with Tbilisi City Hall but other municipalities. There is a great potential to reduce our energy costs. Currently 82% of our heating comes from external energy sources, natural gas and electricity. In European apartments it is the opposite. They save 10-15%, because European houses are constructed according to required norms and insulated properly. We should take into account the energy generated by ourselves as well, which significantly contributes to accumulated energy in the apartment.

Host: Ms. Khatuna, can you tell us more about energy efficient measures: how can they be conducted in the residential buildings?

Khatuna Sitchinava: First of all, thank you for inviting me. As for energy efficient measures in residential apartments, we have to take into account not only the building envelope and the

construction and the design, but also to the building's condition as well. For example, how much solar energy can it use and how can less electricity be used for lighting? What kind of materials should be selected for walls? How does the architect/engineer select materials and, determine the location and number of windows and in an apartment? What is the calculation of the ratio of wall and window areas? Energy efficiency in a building includes windows, walls, floor, ceiling in complex and those technologies that we use for heating, ventilation and cooling. We ourselves can implement energy efficient measures-- expensive as well as cheap ones. According to calculations 40-45% of energy consumed goes for heating, especially for natural gas. You know that the winter season is very expensive for Georgians. We use natural gas as a main resource for heating and hot water supply and respectively expenses are relatively high. Most citizens can hardly afford the cost of heating. In rural regions, some households use electricity for heating because they have no natural gas. Here I want to stress that in rural areas today farmers use wood burning stoves for heating, and some use energy efficient stoves that significantly reduce firewood consumption by approximately half. These new types of stove are popular in rural areas of Georgia.

Gia Aravidze: I agree, this is very efficient equipment for rural populations and according to our calculation this type of stove generates 60% of heat, which is sufficient for heating, hot water supply and cooking. I want to address the issue Khatuna was talking about: energy efficient measures in apartments. We are facing problems with old dwellings. Renovating them is costly but no one considers energy efficiency at all. What should an ordinary resident do in this situation, someone without financial resources to insulate their apartment from outside? How can they reduce the consumption of natural gas and electricity? Is there any information for them on saving energy and increasing comfort? Information on these measures would be very important for the public.

Khatuna Sitchinava: Of course, there are a number of measures that ensure reduced energy consumption in apartments. For instance, we can replace the old lighting system with a new one. Traditional bulbs should give way to energy efficient ones, paying attention that we buy bulbs in the A category, which indicates a long bulb life.

Gia Aravidze: Good advice for the public is to unplug all electrical devices after use. It doesn't matter if we leave TV or other equipment in stand-by mode, because in that mode they still consume energy. We must assist people to change their behavior and habits in energy consumption. Increased electricity bills contributed to a change in the bad habits of uncontrolled use of electricity. But now it is time to change behavior towards electrical equipment. This is a complex task; first of all we need to deliver information about energy efficient measures, then behavior will gradually change. The younger generations are very interested in this topic and they can totally change their energy consumption behavior.

Salome Naskidashvili, student: Can you advise on how can we determine that a building is energy efficient?

Khatuna Sitchinava: Unfortunately, I cannot remember a construction company that addressed us to conduct an energy audit for a building.

Gia Aravidze: When you buy a car, you ask about its technical parameters. The same is in case of a building. You can hardly find a construction company or developer today who will say that his buildings are not energy efficient. In this case you have to ask them about energy passport of the

building you plan to purchase. Of course the costs for such residential buildings will be much higher, but it is a customer's right to have full technical information about the building.

I want to share my experience: I had to change apartments and moved into a partially finished one, where we faced a problem in winter and had to insulate around 20m² of external walls because of moisture condensation. This measure cost around 800 laris. If I had included these 800 laris for the energy efficient measures initially, I would not have faced the problem. We calculated the cost of energy efficient measures with Khatuna and concluded that the cost of a square meter increases by \$10-15 when energy efficient measures are applied during construction. Yet this sum has zero effect on the final cost, because as you know average area of our apartments is 100-120m², so that's an additional \$1000-1200. However in one or two years you will cover all the extra cost by your savings on energy costs. Your question is correct, but this issue needs regulation at the legislative level. Adoption of a law to oblige constructors and developers to provide an energy passport for the building is highly necessary. In other cases the buyer must hire an auditor to examine the apartment. Not everyone can afford to hire an auditor, and that's why we need regulations.

Giorgi Gorgodze, student: How can we reduce energy consumption in old apartments?

Khatuna Sitchinava: Of course there are plenty of thermal insulation materials on the market—we can line inner walls with mineral or basalt wool, with thermal insulation panels or even paints. If we plan to insulate a room or our whole apartment, we can conduct energy efficient measures gradually. We can install metal-plastic windows with double glazed windows, and my advice is to select the best option available on the market. I don't want to promote any company here but very few companies can provide high quality products. If someone cannot afford it due to high costs, there are different materials that cost less and are easy to install. For example, add an additional glass in a wooden frame, put thermal insulation on windows avoid heat loss, etc. All these simple measures can be done by the residents themselves without any professional assistance.

Gia Arabidze: Summer season is more complicated than winter. In most cases, we can solve the heating problems better than cooling problems. We know that summer is hot in Tbilisi and everywhere in the country. As we calculated the increase of energy consumption, the so-called “energy consumption peaks” are reached in the summer season. But if the consumption was 7 billion Kwh in summer 2007 and 2008, today it's up to 10 billion Kwh. This is caused by an increased demand for comfort. People buy more appliances like air conditioners and coolers. However there are possibilities to save energy here as well, for example, if you want to cool a room, turn the air conditioner on 25 c exactly, which is the right temperature for getting a room cool. Even 1 degree centigrade can make a 5% difference in energy consumption. Most of us have water heaters, which should be set at no hotter than 60-70C.

Host: The 21st century is an era of renewable energy. When visiting foreign countries, the very first thing hosts show us is their equipment that operates on renewable energy.

Gia Arabidze – You are absolutely right! Today the world is moving towards renewable energies and the trend is inevitable, because everything has its end—for example, oil, coal and other fossil fuels. Substitutes are essential, and there are two possibilities here: nuclear energy development and renewable energy development. The first option is extremely risky, so the world tends to move toward renewable energy sources. Today one cannot perceive much movement in this direction in

Georgia. There are no solar or wind power plants for our country's industrial needs, yet we have very important resources of renewable energy. Today the construction of a 20MW wind plant is in progress in Gori, and my students know about the small capacity 400W wind plant in the Tbilisi Technical University laboratory, with a solar station. These are not for industrial purposes but models for student research. I want to address the obstacles for developing renewable energy sources in Georgia. I would like to stress that in Georgian seaside regions hot water should be provided by solar heating collectors in summer. Solar heating collectors are technologically advanced and are competitive to natural gas. Natural gas is the cheapest source for heating at the present time, so solar collectors are a major competitor. Using solar collectors is advisable in places with a huge demand on energy, like in residential multi-story buildings where a collector can be installed on the roof or balcony. In Georgia situation varies by region, so it is important to calculate where it is suitable to construct electrical grids or install solar collectors locally like in the village of Gotstibe, where we have worked and installed solar stations. For example, Winrock International implemented local small hydro power plant construction under project NATEL II in Shatili. I should admit that USAID supported a number of projects in mountainous regions to ensure local autonomous electricity systems. So a feasibility study is essential for the selection of appropriate options and technology will determine progress.

Host: I think it will be interesting for the audience to know what architects should take into consideration for green building.

Khatuna Sitchinava: Architects, constructors and specialists in our field should work together. When designing, an architect needs a constructor's advice as well as the opinion of energy experts to understand what should be done about energy efficiency in the building. They should consider energy efficiency as well as the ecological components of the building, i.e. using ecologically clean materials. Using solar energy is important for green building. What does that mean--architects design windows to ensure maximum daylight consumption for the building, for example, and there are many other details they consider like "light shelves" that stop heat inflow during the summer season.

Host: Can you give us examples of green buildings worldwide?

Khatuna Sitchinava: There are many examples, like in Dubai where some green buildings generate power themselves. There are wind generators installed on bridges to provide enough autonomous light for the bridge and neighboring districts too. There is a famous greenhouse constructed in Egypt that is a very attractive design architecturally as well.

Kakha Kakhiani, student: What factors foster the development of renewable energy sources and why is this direction developing more rapidly abroad than in our country?

Khatuna Sitchinava: It's the lack of legislation. Even if we generate renewable energy, we have no way to connect it to the grid. There is a problem with price regulations. Developed countries act as major donors and the state allocates subsidies for their citizens, for example in Germany houses with solar collectors on the roofs consume energy they need in the household and then the surplus flows to the grid. In other words, they sell surplus energy. This is a source of personal income, but at the same time it is in a country's interest to develop this. Subsidizing policies are very important, as they help promote new directions. There are huge solar plants in the USA, like in the state of Arizona. These are not commercial and no one even considers making profits. My colleagues and I hope that renewable energy sources will be actively promoted and developed in Georgia.

Host: To summarize, what can you add to the topics discussed?

Gia Aravidze: I think programs like this one should be aired more often in order to give the audience information on the topics we have addressed.

Khatuna Sitchinava: Waste management, renewable energy sources, why consumers have to turn off lights and save energy, how to protect the environment - these topics need behavioral changes that can be achieved through educational programs.

Host: If you are interested in having more information about issues raised in this program please send questions to the following address: GreenArchitecture@ersulovneba.ge and Facebook page – Green Architecture. The program Green Architecture is supported by Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program supported by USAID and implemented by Winrock International Georgia.



TV Channel:	Ertsulovneba
Date:	February 5, 2015
Title:	Green Architecture
Host:	Tina Khimshiashvili, Green Architect, Professor, President of Georgian Association of Landscape Architects (GALA)
Guests:	Guliko Karumidze, Landscape Architect; Mamuka Salukvadze, Urbanist, Architect, Environmental Specialist; Students from Georgian Academy of Arts

Host: Today we will talk about energy efficiency and green spaces--in other words landscape architecture. Today, one cannot imagine a green city without energy efficiency and green spaces. These two concepts are interlinked.

Mamuka Salukvadze: Today one can hardly find a leading city without energy efficient policies as a priority. Energy saving and energy efficiency are addressed in most cities' agendas, yet this trend is new for our country. However, if we compare it with other Georgian cities, Tbilisi has made significant progress. The city has signed the Covenant of Mayors, which is a European initiative that joins 4000 cities worldwide. These cities have made certain commitments to implement energy efficient measures. What is the main commitment of the Covenant of Mayors? It is the reduction of greenhouse gas emissions (CO₂) by 20%, by 2020.

Host: This means that implementing this initiative will significantly contribute to air purification in Tbilisi. We all know how dirty the air is today in the city.

Mamuka Salukvadze: I want to stress the difference between CO₂ emissions and other pollutants in the city. The Covenant of Mayors requires only the reduction of greenhouse gas emissions.

Host: Can we discuss the first steps? It will be interesting for me and for the audience.

Mamuka Salukvadze: Tbilisi elaborated the Sustainable Energy Action Plan (SEAP), which was a European Union requirement. In this document we described four sectors. The first three sectors are the major sources of CO₂ emissions--transport, buildings and outdoor lighting. We have added a fourth – city greening --because increasing green zones will significantly improve the city's environment. The transport sector is the greatest source of CO₂ emissions in the atmosphere, followed by building, where we residents consume energy for heating and cooling; municipal infrastructures are fourth, especially outdoor lighting. The Action Plan lists a series of measures, and if the city fulfills their commitments by 2020 it will certainly benefit from these measures.

Host: Has the implementation started?

Mamuka Salukvadze: Yes, it has already begun in the transport sector. I have to admit that only a description of measures and actions in the document is not sufficient, and success is measured only by implementation. We have to reduce CO₂ emissions for example by renovating the public transport fleet, introducing "green" traffic lights in the city, creating "road islands" to avoid traffic jams, and insulating buildings and many more. And we all know that implementation of these

measures is complicated. For residential buildings we can advise residents on simple measures that will contribute to CO₂ emissions reduction and energy savings in apartments. These issues are addressed in the action plan, but once again I believe we must ensure that all of them be fulfilled.

Host: Mrs. Guliko, you know every park in our city, their origin and current situation. What has been done to date and what do you plan to do in the future?

Guliko Karumidze: In the 20th century when our city started growing fast, the very first park was Mtatsminda, designed by the Kurdiani brothers and the dendrologist Alexandre Machavariani with his wife Elene Tsitsishvili. Tsitsishvili designed our famous Vake Park as well. It is interesting that by 2000 when the Tbilisi General Plan was elaborated, a Tbilisi landscape, greening and irrigation plan was created simultaneously. This plan included green constructions, the organization of the landscape and per capita planting of plants.

Host: Can we tell our audience how many plants are advisable per capita?

Guliko Karumidze: We cannot survive without oxygen and plants are the main source of it. For big cities, which are often deprived of green zones, an essential norm is 50ha of green zones.

Host: What about existing parks?

Guliko Karumidze: Today Tbilisi is deprived of greening zones. Over the last 20-25 years no new parks or gardens have been created. On the contrary, parks, gardens, and green squares are poorly maintained and in some cases even destroyed. One can often find parking areas, cafeterias, restaurants, and even residential buildings on their territories. Every day the greened zones of the city disappear. For example, in Vake Park, the area was originally 120 ha. Today it is around 20 ha. It is our obligation to preserve and restore each hectare and create even more green zones and territories. Parks, gardens and boulevards are multifunctional for people. Not only do they have an importance of sanitation of the environment, but they important for recreation as well.

Host: According to the General Plan of the year 2000, it was decided to create 7 new parks, but this plan was not implemented--what can you say about this?

Guliko Karumidze: Indeed, there were huge projects planned. For example there was to be 200 ha of park area in the Gldani district. Not only in Gldani but in every newly built district, the creation of 200 ha of parks was planned. However social and economic problems kept this from happening. I hope that the new Million Tree project will create green architecture, preservation and development.

Mamuka Salukvadze: I would like to give statistical information on the measures implemented in green zones, taken from the General Plan of 2009. If I am correct, around 34% of the surface should include recreation, green and forestry zones. However in the new urban areas only 5% is allocated for greening. This is a bad indicator.

Mamuka Salukvadze: And this percentage only includes existing parks and gardens, because new green territories are not yet identified.

Host: We can say that Rike Park is a new one.

Guliko Karumidze: Its area constitutes only 5 ha and the area is small.

Mamuka Salukvadze: Unfortunately, it is not sufficient for the needs of a city.

Sopho Gvazava, GALA member: Can you tell us about the foreign experience--how much territory is allocated for greening?

Guliko Karumidze: These zones are divided by categories. The ones are open to the public and free of charge. Other territories can be owned by private owners or organizations –people pay to enter. Territories that exceed 20 ha are called a park. Generally gardens are from 2 ha to 10 ha. In foreign cities you can find district parks with smaller areas, as it depends on location and district. In regard to green squares they should not exceed 2 ha and are found mainly at administrative buildings and schools.

Host: From the viewpoint of a landscape architect, the issue of green parks is important for our population. In Mtatsminda district, there was a green square near the Academy of Arts where residents of the neighborhood used to gather. The same was true of a green square in the Saburtalo district, near the GTU building. Today there is a building in the middle of the square. So we can say that green squares suffer much more compared to other green zones.

Host: Starting from ancient times, all cities had urban plans--for example, Paris' round city. All green zones have a common direction, in other words, they have an outline over which the landscape is designed.

Guliko Karumidze: Urban planning is very broad issue and we need more time to talk about this topic. The General Plan of the city acts as a constitution. In this document all actions are reflected, starting from construction and ending with underground communications.

Mamuka Salukvadze: In this regard we are facing legislative problems. Today, interested parties are discussing the adoption of a law to protect green zones. Mrs. Guliko has described the best scenario. Unfortunately, that is not the reality. Our city has a general plan and concept adopted in 2009, but this document is still far from perfection and needs further improvement. Today Tbilisi City Hall plans to update this document and include the component that addresses the greening issue. Regarding legislation, without a law on greening it is impossible to determine the number of parks. Today parks don't have any legal status. At the same time we cannot use laws adopted 30 or 40 years ago, as many parks and gardens don't exist anymore.

Elene Tskhadaze, GALA member: Mr. Mamuka you have talked about an action plan that should be implemented by 2020. Do you plan to include the legislation issue?

Mamuka Salukvadze: Good question! Without legislation it will be impossible to manage this process. The action plan adopted in the framework of the Covenant of Mayors describes measures only, but indicates the necessity for legislative norms. Concerning private cars, the CoM advises that the city move towards public transport. However public transport must become better for it to be chosen by all citizens. The younger generation is not lucky because you live in the city that is not

properly organized compared with European ones. But at the same time you are lucky, because you have a clear vision about what should be done to improve the city. Our city is deprived of many things, including greening, and this program helps people understand the importance of green zones in the city. A few words about architecture in the city: you all see what kind of buildings have been constructed in Tbilisi, so you know what improvements must be implemented. Measures described in the action plan will help to improve the situation in the city regarding the transportation and building sectors.

Host: What attracts our attention in regard to greening is a properly managed irrigation system. We landscape specialists know how to plant different cultures or plants and how to select proper places for cultivation, but it is important to maintain all these plants. Our association cooperates with the Italian association's school, the Milan Summer School. During our visit our students designed a green square. This exchange program for students is conducted annually and this program gives the younger generation an opportunity to learn modern directions in landscape architecture. In June 2015 we plan to take another group of young people.

Natia Kapanadze, GALA member: As you mentioned, we visited Bergamo and attended the annual summer school meeting there. In a couple of words I want to share information about the Bergamo event. A square of approximately 300-400 m² is located in the historical part of the city. Students from different countries are invited to participate in the event along with leading specialists, aiming to design the project and implement it. Each year visiting conference guests have the opportunity to see all the projects. This event gives a new life to the city itself. My question is, how do you see youth involvement? More than 100 students graduate annually from the Georgian Academy of Arts, so how can their capacity be used?

Host: Based on the Italian experience youth involvement can be achieved, Natia has talked about landscape specialists, but various other specialists can participate as well. People with different professions who want to change their profile can attend the summer school in June.

Sopho Gvazava, GALA member: You have said that people of different professions can attend this summer school, but is there any restriction regarding age?

Host: There is no restriction on age, and even 60-year-olds can attend these courses.

Host: To summarize, what can you advise about what should be done to achieve the greening of Tbilisi?

Guliko Karumidze: For example, I can name big cities like London and Paris, where large territories are allocated for recreation. Parks and gardens are located in the centers of the cities. It is important to cover developed parts of the city with greening systems that will contribute to improvement of fresh air, recreation and living conditions. Boulevards, green squares and gardens must be interlinked. New York Central Park is 300 ha, and a very good example of a green zone in the middle of the city. Six parks are connected with each other in London. The famous Champs-Elysees is connected to two huge parks - the Boulogne Forest and the Forest of Vincennes. Another good example is the northern city of Amsterdam, which is perfectly covered by green systems. These parks attract tourists as well. In Tbilisi we have an attraction, the Botanical Garden, which may increase the interest of tourists to visit our other famous parks. Lisi Lake is a private territory

and an investor has started renovation works for a park near residential buildings, which are planned so they are linked to the recreation zone of Lisi Lake.

Mamuka Salukvadze: Tbilisi faces one problem - it has no united system. Mrs. Guliko talked about the importance of connecting parks, yet today Tbilisi has been deprived of this privilege. Our city has no system in place, and most green zones in the suburbs and centers of the city are deprived of these systems. So, it is very important to create a system and plan with the participation and advice of landscape architects and environmental specialists, in order to integrate such a system into the framework of the General Plan of the City.

Host: At the end of our program what you can wish our city?

Mamuka Salukvadze: It is not only about my wish, I have to do a lot of work in order to improve things in the city.

Guliko Karumidze: I wish all citizens, especially youth; to put more effort into environmental protection, and that the future generation of educated persons will love nature and serve it.

Host: Society, Tbilisi City Hall and landscape architects are major drivers for improving environmental conditions in the city, which is how this mechanism works abroad. We will meet in the next program. Thanks for watching!

The program Green Architecture is supported by Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program supported by USAID and implemented by Winrock International Georgia.



TV Channel:	Ertsulovneba
Date:	February 12, 2015
Title:	Green Architecture
Host:	Tina Khimshiashvili, Green Architect, Professor, President of Georgian Association of Landscape Architects (GALA)
Guests:	Archil Papava, Marketing Specialist; Architect Giorgi Jamarjashvili; Nana Meparishvili Doctor of Technical Sciences, Engineer, Energy Auditor Professor; Students from St. Dimitri Kipiani Boarding School

Host: Today we are hosting guests and students from Khashuri. Please introduce yourselves.

Student: We are from Saint Dimitri Kipiani Boarding School under the Patriarchate's patronage.

Host: This program is dedicated to discussion of green construction and materials. Mrs. Nana can you explain what green materials are, and why they are better than traditional materials?

Nana Meparishvili: Green materials are made from natural components and produced with minimal energetic resources. As we all know, cement production requires generated energy – energy received from the combustion of different fuels, and as a result this causes serious damage to the environment. The absolute precondition for the production of green materials and green construction is to produce ecologically clean products. Consider two examples, wooden and laminate doors: wooden ones are made from renewable resources, and laminate doors are also made from renewable resources from chips and sawdust from making wooden furniture and doors. However we should pay attention to the ecological composition of laminate products, and know what type of binding glue is used to avoid poison products. This issue needs more attention.

Archil Papava: We can have two different wooden doors, but the wood might be obtained from different forests--one from a forest that is managed sustainably and where trees can be cut and new ones planted.

Mariam Leshkasheli, student: What are some green materials produced in Georgia?

Nana Meparishvili: Even in past centuries we had a good tradition of green roofing and walls, for example like slate, basalt, and different colored tuff stone is one of the most popular construction materials in Georgia. These materials were used by our ancestors. The concept of green architecture means ecological construction - construction with less damage to the environment. Today, green architecture combines all contemporary achievements in green construction, indoor climate conditions and engineering devices. Contemporary architecture and engineering activity require that architects and engineers work together. You will see an individual approach is needed for making decisions on each building or during the designing of the building by the architect. Without these decisions it would be difficult for us, specialists in technology, to realize the comfort needed. Modern architecture involves specialists from different fields, and the time element is important. Energy savings are not connected to poor living conditions; to the contrary, increased comfort is linked to health. That is why the green house idea has become more important today. It is useful to have information on the experience of other countries using green materials. For

example, when the USA faced an energy crisis, energy saving house construction became important. So they started to build houses that use passive energy. Today the situation has evolved even more, and Germans, for example, build houses that use active energy, and can even sell electricity to the central grid. Modern constructions consider that health is very important, and the green house not only offers a healthy environment for those who live there, but protects the environment as well.

Host: Giorgi, what can you say about the green house and global experiences? As I know you have designed several green houses in Georgia. Can you tell us about their location and number?

Giorgi Jamarjashvili: Greetings everyone. The green house tradition in Georgia is unique. A “green house” means it was built with green materials and modern green technologies first of all. The most evident example of a green house is in Tusheti where there are traditional dwellings built with ecologically green materials – stone and wood - and today they can be integrated with new technologies like solar energy. Inhabitants use this resource for electricity and water supply. This is a very good example of combining traditional and new technologies. The architecture of the 21st century uses new technologies. There is a brilliant example of this at the Center of New Technologies, located directly across from the Shopping Center Tbilisi Mall in Didi Dighomi, designed by Sandro Ramishvili. The building combines water and electricity saving technologies, and the building design is presented in such way to ensure a maximum of solar energy. The building is covered with green roofs, and we use filtered rain water. When we are talking about green building efficiency for Georgia, this building is a very good example. When we started construction the site was bare and had no infrastructure. Before building it, when we calculated construction related costs, we found that by using these technologies the final budget would save more than originally planned.

Archil Papava: Most consumers think that costs related to energy efficient green houses are high and that they cannot afford this, while in reality the situation is quite different. Many aspects are important--first of all, the role of the architect who is the designer of the building; then comes the group of engineers who will add all necessary details and only after these stages, construction starts. If the entire cycle is properly planned, expenses can be minimized. Factors should be considered, like the location and the possibility of using wind or solar energy when there is no grid, and one can use only renewable resources.

Host: All of you are professionals and know what you are talking about. I have a question about price: for example if the construction cost per m² is \$500, can you give us the price of an energy efficient house compared to a traditional one?

Archil Papava: For the same price you will get increased comfort and significantly reduced energy related costs.

Luka Kavlashvili, student: What is the impact of new technologies on the development of green architecture?

Nana Meparishvili: There is a direct connection between these two fields. When talking about green technologies and materials, I omitted mentioning the possibility of reusing of materials. My advice to the audience is to avoid throwing away plastic bottles, tires, construction and used wooden materials. For example, tires can be used when constructing the house. Architects and

designers know examples of houses constructed by using tires. As regards the price, I had to prepare report on zero energy consuming houses. Of course the basis for it was an architectural idea, because architectural design should give opportunities for using such technologies that reduce energy consumption. Compared to the final cost of a traditional house it showed that the price of building an energy efficient house is 30% more expensive because of used new technologies; however within three years energy savings and benefits from it completely cover this difference. And after three years you can easily live without any energy related expenses. Considering the advantageous location of our country, there are plenty of opportunities to use renewable energies (solar, wind, biomass, etc.). Having architects and technological engineers who can tackle these technologies, I don't consider green building as an impossible mission. Even some old buildings can be renovated by using efficient technologies but this is expensive. In addition, there may another problem of initial design of the building that makes it impossible to transform it into an energy efficient building.

Using local green construction materials is very important, because transporting materials means additional emissions into the air. These details are taken into consideration before starting construction. Professional expertise is most expensive elsewhere, while in Georgia we have no such attitude – every professional should be paid according to his/her competence. I can say that green materials are more or less cheap; but decisions of professionals are more expensive.

Luka Kavlashvili, student: What is the green construction trend in Georgia?

Giorgi Jamarjashvili: Well, I can say that the idea of green construction in Georgia is becoming more popular in certain circles. To some extent, there is a demand for green buildings on market. The greatest demand is related to the reduction of thermal loss, and insulating apartments and houses. For old houses, energy efficiency can be increased by additional insulation and integrating new technologies. Regarding the construction of real greenhouses (that can generate energy) we have limited progress here in Georgia. I want to go back to the question on the impact of new technologies on architecture. A couple of years ago there was a very active discussion on energy efficiency of glass and whether it is a green material. Today technologies developed so we can glass in big areas without thermal losses, for example, one can use glass that keeps the heat indoors but lets the sun indoors too. Some glasses are combined with solar panels. There are heat-inducting elements integrated in some roofing materials as well.

As for international experience, there is a significant progress in green houses construction, not only one-story houses but multi-storey green buildings as well. Even skyscrapers are constructed using new technologies like integrated solar panel systems and wind turbines. Usually there is an experience of collecting rain water from the façade of the building and after filtration using it as gray water. Green buildings are popular on the market internationally and are sold and rented more easily because the money spent on energy efficiency (construction, technologies, etc.) is paid back within 3-4 years.

Archil Papava: There are different certification and rating systems in Europe and the USA. These are created specifically to evaluate buildings. The assessment takes many details into consideration, including location, transportation, use of materials and technologies, recycling used materials, etc.), then rates the buildings as green or not.

Giorgi Jamarjashvili: A study conducted in the USA showed that in LEED certified schools students performed better, and in LEED certified hospitals patients were discharged earlier compared to ordinary buildings.

Host: It will be interesting for our audience to get more information about this study.

Archil Papava: In most countries there are building requirements concerning constructions. In the USA there are institutions that require construction/developer companies to obey the rules that are already accepted. In Georgia we don't have requirements for residential and public buildings. Very often customers, businessmen and construction companies are too interested in long-term financial benefits and prefer making short-term profits. As a result, today most newly constructed buildings here are not energy efficient at all. However, as we see from TV commercials, there are a number of construction/developer companies who claim their buildings are energy efficient. However we still face a problem of legislation—there is neither a state inspection office nor any obligatory legislation on construction norms and requirements. These problems have been solved in Western countries.

Sopho Gaprindashvili, student: What is the input of an architect in green construction?

Giorgi Jamarjashvili: The initial stage of construction is an idea, followed by the design. While designing, the architect takes a very important role by defining the building area, parameters, orientation and materials to be used. New technologies are vital at the design stage.

Host: I assume that if private house is located in a green zone, an architect thinks about solutions to minimize damage to the environment. The famous 20th century architect Le Corbusier stated that he had always tried to avoid damage to the environment if the building location was situated in a green zone. I can quote another famous architect, Frank Lloyd Wright, who designed the famous Villa Fallingwater in 1935, located in the middle of nature: “I put a small pebble in the middle of nature and tried to avoid destroying it.”

Giorgi Jamarjashvili – Preserving green zones is a tendency in modern architecture, which is why the so-called “brown fields” are mostly mastered. These are lands where houses were previously built, and an architect usually thinks about the future building location as to whether there are trees nearby helping to make natural shade for the house in summer and vice versa in winter.

Host: Today's program is coming to an end, and let us wrap up with the role of state and society in green building.

Nana Meparishvili: The idea of green architecture, energy efficiency and energy saving became popular worldwide because of the greater understanding both on an individual and on the state level to move towards energy independence. Just imagine living in the house and paying zero energy costs. You will feel more independent--The same is true for the state. If the state pays attention to these issues, it means it cares about its population. The second issue is public awareness. When one builds and lives in a green building the person is considered developed and caring for the environment, the neighbors and their own household. These two components create the state and society we all want to have.

Archil Papava: I hope that the tendency of demand on energy efficient, sustainable green buildings will continue; the interest will increase, and the state will issue regulations and requirements; I hope the business sector will express its interest in green construction. As a result our state's economic conditions will improve and we will live in a healthier and more protected natural environment.

Giorgi Jamarjashvili: The demand for green architecture in Georgia is gradually developing. Now, it is our duty to respond to this demand by educating professional architects and specialists in modern energy-efficient technologies, who will be able to explain the ideas of green architecture and its advantages to society. In the case of Georgia, we have our own potential. Our intellectual products are exported, for example our company now works in Libya and is in charge of green construction. We have to promote green architecture, teach it to students. Professionals in the field can promote the idea of green architecture to society.

Host: Thanks to all for coming and participating in our program. We hope that you, the young audience, will push the idea of green architecture forward. Join us every Thursday at 21:30 and watch Green Architecture with me, the author and host of the program, Tinatin Khimshiashvili.

The program Green Architecture is supported by Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program supported by USAID and implemented by Winrock International Georgia, and the Georgian Association of Landscape Architects (GALA) in cooperation with the Green Building Council of Georgia (GBC-Georgia).



TV Channel:	Ertsulovneba
Date:	February 19, 2015
Title:	Green Architecture
Host:	Tina Khimshiashvili, Green Architect, Professor, President of Georgian Association of Landscape Architects (GALA)
Guests:	Nino Chkhobadze, Chairman of the NGO Green Movement; Marina Shvangiradze, Third National Communication Coordinator on Climate Change; Students from the Georgian Academy of Arts

Host: Let me greet our audience. It will be interesting to learn about climate change, global warming and why these have become important today.

Nino Chkhobadze: Nothing extraordinary is happening today. We all know the facts from the history of human development -- there were periods of ice ages and as a result of climate change a new life cycle/stage of evolution began. The earth changes over time. Today, in Georgia, we have the historical footprints of such ice age periods. According to scientists, the preserved biocenosis in Kolkheti National Park belongs to the very first ice age. Climate change is happening now and started in the 20th century, but scientists disagree on which of two approaches is correct: the first approach suggests that this is a cycle that is normal for the Earth, while the second maintains that humans have accelerated climate change by our negative impact on the environment through emissions, and especially by greenhouse gas emissions. Everyone agrees that climate change is evident today and that the metrological situation has changed as well. We face changes in temperatures in many regions. We see initial indicators that point to climate change, but how long this will continue is unknown and whether global warming will be succeeded by a freezing period is still uncertain.

The issue of climate change has become important not only in terms of environmental protection but also politically and economically. Leaders of different countries include this topic in their agendas and discuss it at important summits by all involved parties, so all these movements indicate that countries are preparing themselves to face the possible outcomes of climate change and try to minimize its effects at a global level. We all know that every climate change has its impact on economic development and each country might suffer from its impact. Let me give an example: in agriculture we know that every plant has its harvest season, and climate change can affect harvesting significantly. Harvesting times in Georgia have changed and new terms should be defined because we may not harvest like before. This is not only due to climate changes but to soil degradation or erosion as well. However, in many cases the soil degradation is connected to climate change, for example when there are great differences between day and night temperatures, which cause soil exhaustion.

Host: Our program is dedicated to green architecture; green architecture also includes green buildings and urban territories. Climate change impacts buildings and buildings impact the environment - how does this work, and what kind of problems do we face in the city and urban development?

Marina Shvangiradze: I completely agree with Nino and just want to add a couple of suggestions. Today everyone is concerned about ongoing environmental processes in the world. The possibility of temperature increases above 2C might make the process irreversible. We have to take into account that in times of previous climate changes population numbers were lower and the world was not so developed economically. It could resist these types of changes. Today the situation is different and the world is moving faster into development. Cities and green buildings a number of studies have been conducted to assess the contribution of different sectors, like agriculture and forestry, to the global warming process. The largest contributors to greenhouse gas emissions are big cities and urban settlements. Big cities include transport and buildings, and the share of emissions from buildings in the world total 47% of the world's emissions.

Host: Our audience should understand the difference between old and new buildings. With climate change these new constructions play a major role because their impact on the environment is less than for old buildings. What can you say about the role of green building in for mitigating climate change?

Marina Shvangiradze: Because of their significant role in mitigating global warming green buildings become more important. Here we can also include green cities. One can think that by constructing one or even hundreds of green buildings, energy might be saved and emissions reduced. But these actions alone cannot improve the whole situation. Green building must not be considered as a separate unit but as part of the whole infrastructure that serves a particular building. For example, if a building is located in a remote area with no developed infrastructure, or when kindergartens, hospitals and work places are far from residential buildings the emissions are increased three-fold. In general public transport emits less than individual transport since cars can transport only 1-4 people. I think that norms accepted in Soviet times must be revised, because climate parameters have changed, including wind directions. The situation on our Black Sea coast is under observation as recently a hotel was flooded because the wind direction had changed, that caused an unpredicted inflow. As for cities, wind directions have also changed so we have to take this into consideration for the construction sector and use solar energy to a maximum.

Host: Climatology has always been a highly developed science in Georgia. In the 1970s prominent scientists like Manana Bokeria and others worked on climatology engineering, particularly for the comfort of houses and the indoor environment. The location of Tbilisi is very lucrative and the city has a natural wind ventilation system. Unfortunately, however urban planning has never considered this factor. Greening, urban planning and climatology have to be linked.

Marina Shvangiradze: Today we have no clear picture on temperature and wind directions even for Tbilisi, because only a few meteorological stations operate in the city. Previously there were more.

Nino Chkhobadze: The so-called “Wind Rose” of Tbilisi has changed. There are several reasons--the construction of high buildings, global warming, improperly planned infrastructures and reduced green zones—all of which pose major obstacles for ventilating the city.

Alex Solomnishvili, student: I would like to know how the Georgian Constitution regulates environmental protection taking into consideration ongoing climate change?

Nino Chkhobadze: Article 37 of the Georgian Constitution states that every citizen of Georgia has the right to live in a clean and favorable environment. There is also another article emphasizing the country's sustainable development. In reality, we must improve and correct many legalities. A few seconds ago you were talking about the contamination of the city, and I want to point to the improper planning of Tbilisi which has resulted in smog conditions.

Host: “Smog” in an English word and means the contaminated air, a mixture of smoke, mist and dust. What happens when air is contaminated? For example, there was continuous smog in the 19th century in London for 30 days when around five thousand people died. Do we have any data from the Georgian Ministry of Health?

Marina Shvangiradze: Yes, we do. We have data on the influence of smog on the city population. Several studies were conducted on this. There are two ozone layers we have to consider—one at ground level and the other is troposphere ozone that protects us all from ultra violet radiation. Ground level ozone is created from different chemical substances and according to recent inquiries; temperature plays a significant role in the increase and length of the smog in the cities or regions. Of course the direction of the wind must be considered as well. The study showed that a 26C degree temperature is not sufficient to cause smog, but temperatures above 32C can correlate with causing smog. We conducted several studies thermal waves for Tbilisi and other cities and results showed a high correlation to illness.

Host: There is a term used in engineering climatology, the so-called “Heat Island”. In the very hot season the population, especially children and older people, are advised to leave the city because it is very hard for these groups to tolerate very high temperatures correlated with smog.

Nino Chkhobadze: Several years ago Tbilisi faced a problem where early in the morning the whole city was covered with mist and fog. At that time there was no opportunity to examine the situation, but at the first glance it was evident that the smog was caused by shifts in temperature. Night and day temperatures created different flows and as a result the city was covered with mist. Several things contributed to the formation of smog: There was no ventilation in the city, transport was congested, infrastructures increased and green zones diminished. Today the construction of new buildings in Tbilisi is being done very poorly, as new buildings are constructed very close to each other, making adequate ventilation impossible.

Host: We all remember Agmashenebeli Avenue before the street was enlarged, when there was an alley of trees and the birds' singing woke us up. At international conferences I often hear about how green building and proper urban planning have actually improved the environment so that bird species have increased in number.

Nino Chkhobadze: Despite the fact that new highways have improved the traffic flow in the city, we all know that the Vera valley and Mziuri Park were considered the ventilation systems for the city. Now a new load of pollution has been added to these two important systems.

Host: Students from the faculty of Architecture created different projects for those highways which ensured the ventilation systems were preserved.

Natia Kapanadze, GALA Member: I would like to learn about the importance of public awareness on climate change, ongoing processes and the role of non-government or government sectors?

Nino Chkhobadze: Our main goal is to educate the public by raising awareness on how we all can contribute to climate change mitigation. For example, if we have to buy bread in the nearest market, there is no reason to drive a car, just walk. Many cities now promote the idea of green roofs and green walls. Today's world is characterized by new technologies and innovative ideas.

Host: A few words about the present novelties: the future belongs to green cities. The city of the future, a floating ecopolis, Lilypad, is a lotus-shape model designed by Belgian architect Vincent Callebaut for future climate refugees. This project was elaborated but due to the financial crisis it has not been implemented. The idea of a green city is becoming more and more popular and people are willing to live in such cities.

Marina Shvangiradze: Every decrease in the quantity of local pollutants will have an effect on global warming. We have several factories in Georgia that are sources of emissions, but the major share of still belongs to the transport sector. My viewpoint on this issue is that we should not only blame the government for increased emissions, but society should come up with an idea that building in Vake Park, for example, is not a question of prestige. The demand comes from society and the duty of the Government is to develop a country's economy and avoid such improper incomes. In Germany, nobody is keen to live in Berlin, Bonn, or Frankfurt.

Host: Paris is an ancient city, and many wish to live near the famous and attractive Place Trocadero. Tbilisi is a very old city as well, but everyone wants to live in the center.

Nino Chkhobadze: In order to somehow alleviate the situation with traffic, Parisians have created a schedule of movement for odd and even numbered vehicle license tags.

Marina Shvangiradze: When I was talking about Vake Park and constructions there, I wanted to stress that there is no sense in constructing buildings in parks. These constructions are harmful for the environment and would make the center much less attractive.

Nino Chkhobadze: When new constructions harm recreation places like small green squares it is an issue that needs proper attention. Lisi Veranda that has already been constructed is a very attractive place for the population to live in and in the nearest future this place will have capacity to become a prestigious one because of its clean environment. Many cities have changed their policy in transport and road maintenance in order to decrease emissions on the ground. They have adopted tough rules on fuel quality and road pavement condition. Similar steps must be taken by Tbilisi.

Host: What about the idea of the tram?

Marina Shvangiradze: While working on the Tbilisi Sustainable Energy Action Plan, one section of the document was dedicated to the tram restoration project, namely on Chavchavadze Avenue. As I know this project still exists, but I have no updated information. The Gldani District was also proposed. By the way Batumi has never considered the idea of a tram, but we advised local decision-makers to include this measure in the plan. A tramway from the center along the sea coast would be attractive for tourists as well. It is not necessary to implement this idea everywhere in

Georgia, however the tramway system should be as rapid and comfortable as it is in European cities and help citizens avoid using cars.

Nino Chkhobadze: All these steps lead us towards the elaboration of a municipal public transport system, otherwise it will be hard to achieve all the goals.

Marina Shvangiradze: Proper planning and the development of a cable infrastructure is another good solution to improve the transport sector and clean air in the city.

Nino Chkhobadze: The city has to have a zoning system and respectively recreation zoning as well. We have little information or data and what we have is not sufficient. Only by planning the city can we ever develop it.

Maia Balishvili, student: Taking into consideration the typology of urban development, what are some restrictions against the construction of multistory buildings in terms of insulation and direction of winds?

Nino Chkhobadze: Under the legislation, an investor is not restricted at all: if he requires an increase in the coefficient of flats and space, he has to pay for it. There are some restrictions in planning of course. In Europe, however, there are restrictions with regard to coefficient depending on city zones. Unfortunately we have no such restrictions in Georgia. That is why we have problems in urban planning.

Host: Our program is coming to an end. To summarize our discussion what should be done for the city?

Nino Chkhobadze: First of all it is important to have a complete city plan.

Marina Shvangiradze: I would like to repeat that behavior change is the major key. If we consider it seriously, changing people's behavior is very strong tool for climate change mitigation.

Host: Thank you for participating. Join us every Thursday at 21:30 and watch Green Architecture with me, the host of this program, Tina Khimshiashvili.

The program Green Architecture is supported by Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program supported by USAID and implemented by Winrock International Georgia, and the Georgian Association of Landscape Architects (GALA) in cooperation with Green Building Council Georgia (GBC-Georgia).



TV Channel:	Ertsulovneba
Date:	February 26, 2015
Title:	Green Architecture
Host:	Tina Khimshiashvili, Green Architect, Professor, President of Georgian Association of Landscape Architects (GALA)
Guests:	Levan Beridze, Vice President of the Georgian Architects Union, Doctor, Professor, Architect; Giorgi Gurgenidze, Member of Green Building Council Georgia (GBCGeorgia), Green Construction Expert, Architect; Members of the Green Building Council of Georgia (GBCGeorgia)

Host: Let me greet our guests. Today we will talk about certification of Green Buildings and the Green Building Council Georgia. Let's start with you, Mr. Levan. During our previous programs we have addressed the issue of green architecture. Can you explain to the audience the essence of Green Architecture?

Levan Beridze: Many of us think that green architecture considers only greening plants and outdoor visual effects. In reality, the basis of green architecture includes the conceptual idea, design and technical services. These stages must consider environmentally clean technologies, services and resources. The term 'Green Architecture' was introduced in 1980s and includes not only architecture with integrated natural components, but also energy efficiency and economic architecture --and we have to discuss all components in conjunction with each other. Green architecture rests on several principles, of which a major one is cooperation with nature. What is meant by this? Not only should natural components be considered in green design and construction, but such buildings have to be autonomous, hence energy efficient; they must utilize natural resources and generate energy, for example using rain water, etc. As we all know, buildings are large consumers of water. For green buildings there is a possibility to use rain water directly as gray water—this water is collected and filtered and can be used for heating or irrigation.

The second principle is energy saving so green building design should consider energy saving for heating and for cooling as well. Another principle is using solar energy as a main source for heating and lighting.

Host: Giorgi, you are a member of Green Building Council Georgia. Can you elaborate more on your activities?

Giorgi Gurgenidze: We are a regional member of the European Councils and from August 2015 we plan to introduce certification systems that have already been elaborated to evaluate ongoing constructions. Introducing certification systems caused interest both from developers and the public. As regards a green building, it covers broad spectrum. Starting from a very simple construction built from natural materials, where the energy expenses are very insignificant. Its visual design may seem poor and not attractive but as a whole a building comply with requirements of green certification systems.

Host: Can you elaborate on these requirements?

Giorgi Gurgenidze: These are essential state standards in the construction field.

Host: Do we have these standards in Georgia?

Giorgi Gurgenidze: At the current stage we are in the process creating them, but unfortunately, we do not have previous experience using them. These standards should be drafted in accordance with the country's economic potential and not be utopian.

Host: As I know LEED certification has its own criteria. Is there any chance to replicate this system here in Georgia? One important thing is that there is no chain production of green building materials.

Giorgi Gurgenidze: Well, I can say that certain criteria can be introduced in Georgia. Of course the country is not specialized in producing green materials but we have local resources that can be used. The range of green buildings is wide--there are buildings with advanced technologies and high cost construction. It is advisable to reconstruct and rehabilitate existing buildings, rather than build new ones which will mean using new land resources and new materials.

Levan Beridze: the initial stage for green building construction is the design stage. Here we are facing a number of problems. What should be done in order to introduce green architecture? First of all, it is legislative system. Relevant legislative and normative frameworks must be created so accepted norms will be used by architects during the design stage.

Host: Is it essential to have such norms?

Levan Beridze: Of course, it is essential. Today we have no such legislative framework. Currently, there is a Zoning and Construction Code. The Ministry of Economy and Sustainable Development will pass this Code to the Parliament of Georgia and then technical regulations, norms and standards should be elaborated. The second issue is who should design green buildings. Of course architects, engineers and other relevant specialists. For this purpose the properly educated architects are needed. My suggestion is to introduce special courses of study for students. Another issue is the professional architects. Many are not informed on green building, and it is necessary to conduct trainings and qualification courses for them. Without all this, it will be impossible to develop green architecture in Georgia.

Host: As I know such trainings are already conducted, Mr. Giorgi.

Giorgi Gurgenidze: Yes, we have already conducted training.

Mariam Gugunava, GBCGeorgia Member: Why is green construction efficient?

Giorgi Gurgenidze: The efficiency of green construction includes several elements. First of all, an ecological component that not only has impact locally but worldwide as well. Green construction includes issues that immediately intervene not only in human life but also in the whole eco system. For example, the phenomenon of "light pollution" affects space within the whole eco system--excessive lighted billboards, building illuminations and street lamps. Even these issues are regulated by green evaluations, and for private residential space, according our recommendation; building lighting sources should not be annoying to neighbors.

Host: Is Tbilisi more illuminated than New York?

Giorgi Gurgenidze: New York faces this problem as well. Light pollution has an impact on bird navigation and migration, the life of insects too. As a result the eco system is damaged. Even for humans, excessive lighting at night time damages human health. Eco acoustic norms should regulate sound levels as well to maximums with proper planning.

Levan Beridze: This is an issue of education: natural lighting issues, architectural acoustic issues. Noise levels in the city are important. Noise is measured in decibels, and there must be norms for residential apartments and public spaces. All these issues must be addressed properly while designing the building, for example, where bedrooms are located, the sound insulation for walls and roofs, bushes and trees used as barriers to noise. Another issue is insolation--in other words, using sunlight. In the past we respected norms for sunlight.

Host: Today new buildings are constructed so close to each other that it is impossible to have sunlight.

Levan Beridze: The Code was elaborated to address this and it will help to promote green construction.

Host: I know you have designed a green building. Was it difficult to implement?

Levan Beridze: I have designed it but it is not built yet. There is no investor interested in implementing such a construction. There are many issues that must be considered properly at the initial stages before an investor takes on a project. There is a false perception that green construction is related to higher financial costs, while the reality is different. When the life cycle of the green building was calculated, its efficiency was assessed as much more profitable than ordinary buildings.

Host: In one of our previous programs we hosted a marketing specialist who explained many advantages of green buildings and their positive impact on human life and health.

Giorgi Gurgenidze: Of course, green buildings have a positive impact on people, and even on academic performance at schools and universities.

Host: As I know, Green Building Council Georgia is planning to build a green kindergarten in Rustavi.

Giorgi Gurgenidze: Yes, we are planning this project, and its elaboration will be open and transparent. All interested specialists and parties will be invited to discuss this project.

Host: The Public will understand the outcome and have a clear idea of what green building is.

Giorgi Gurgenidze: Each component in the construction will be considered precisely, like used materials, design of backyard; and renewable energy resources.

Host: Many kindergartens do not have yards and in many cases they do not use even small yards. We faced this in the design of kindergartens by our students; there are no green zones in the yards. So I think that the first green kindergarten will attract public interest as this building will help to connect little children with nature.

Giorgi Gurgenidze: Of course, the formation of human behavior or consciousness is connected with nature.

Natia Kapanadze, GALA member: Considering the above-mentioned norms is being done for future or planned constructions, but what can the population do with existing buildings and structures to bring them closer to those norms and help improve efficiency and comfort in the buildings?

Levan Beridze: Unfortunately, many existing buildings do not comply with these requirements. In other countries the reconstruction of such buildings has already started. They are implementing different energy efficient measures in order to save energy during winter and keep buildings cool during summer.

Giorgi Gurgenidze: I have my suggestion for this issue. There are different options on improving the energy efficiency of the building, for example, by installing water filtration systems or helio-systems, and of course greening is very important.

Host: We all see how greening is promoted in foreign countries. How parks and gardens are preserved and enlarged. You can find green roofs and walls in modern projects.

Levan Beridze: Your program helps audiences understand the idea of green building, and to have an accurate understanding that this idea unifies different components.

Host: I agree with you. Our society is very interested in greening issues, green buildings. While meeting with different persons they always express their interest in this direction, so our program is an attempt to raise awareness about green architecture for our audience. Now I want to address the issue of green councils. Giorgi, what can you say about these organizations?

Host: Green building councils have existed for decades abroad. The oldest one is the British BREEAM followed by USA's LEED certification. Different developed countries have their own certification systems, like Australia. The main ideas are similar and the only difference is that they are adapted according to countries climate conditions and other peculiarities. The most important thing is that green buildings promote sales and competitiveness and thus contribute to economic growth. These criteria help sell buildings used for tourism. For foreign guests it is more comfortable to live in green buildings because they are aware of its efficiency. Green building acts like a business card for the country and tourist attractions.

Host: I assume that a lot of work has to be done to develop our certification system, to take some components from foreign systems and adjust them to Georgian reality.

Giorgi Gurgenidze: We consider the LEED certification system good for a Georgian analogy. Our aim is to share all information on green architecture to our society and interested groups. We should take into account our ancient experience of green architecture. For example, the Javakheti region is very rich in ancient green buildings. In the Svaneti region, too, with its towers built from natural materials and stones to adapt to the severe climatic conditions.

Host: For example, in times of huge avalanches in Svaneti, buildings constructed in the 1970s were destroyed and towers survived the disaster. We should use our ancient experiences in construction and modify it to adapt to new realities.

Levan Beridze: It very interesting how our ancestors considered all components in construction-- location, climate conditions, materials, etc. Svanetian and Kakhetian houses differ from each other because the specificities of these regions were considered by their builders. We have to combine traditional experience with modern technologies. You were talking about certification. Today when person wants to buy a building or apartment there is no information about the building's quality,

materials used or construction technologies, while maybe the facade of the building is attractive. When a building has a certificate or passport, everything is clear. For this reason, building certification and passports play an important role for the current real estate market.

Host: We addressed the issues of green councils worldwide, certification systems, why there is such great interest in the world toward these issues, and a number of conferences and seminars are dedicated to green architecture.

Giorgi Gurgenidze: Every citizen has the right to know where he/she lives and about their living conditions. Is this building healthy to live in?

Host: The issue of Global ecology is very important. Every country has to preserve its eco system to avoid polluting its neighbors, just as in the case of the Chernobyl disaster that impacted many countries. What can you add to our conversation to summarize the program?

Levan Beridze: There is a serious question regarding the development of the micro climates in the country. If every country takes responsibility for these developments we will all live in healthier and more comfortable environments.

Giorgi Gurgenidze: I would like to provide more information about all issues addressed during this program. This will help introduce more green buildings to our country.

Host: Our program comes to an end. Thank you for coming! The program Green Architecture is supported by Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program supported by USAID and implemented by Winrock International Georgia, and the Georgian Association of Landscape Architects (GALA) in cooperation with Green Building Council Georgia (GBC-Georgia).



Source: Navigator.ge
Date: March 24, 2015
Title: Energy Efficiency Is a Smart Choice

On March 20 the Georgian Technical University hosted an event entitled “Energy Efficiency is a Smart Choice”, organized by Winrock International Georgia with the participation of members of “Momavlis Taoba” (Future Generation) Program Civic Clubs.

The event was organized by Winrock International Georgia within the framework of the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program, and in collaboration with the USAID-supported implementing partner, PH International.

Approximately 140 Tbilisi school pupils received information on “How to Save Energy”. The Dean of Energy and Telecommunications Faculty at GTU, Professor Gia Arabidze, spoke on energy efficient technologies and specific issues such as saving energy in apartments, energy audits, renewable energy and climate change.

Source: <http://14school.ge>
Date: December 29, 2014
Title: Ani Svanidze’s Success Story

On December 16, 2014 a training course entitled “Energy Efficiency is a Smart Choice” was organized within the framework of the public education program of “Momavlis Taoba” (Future Generation), implemented by the Kutaisi Education and Employment Center in the Imereti region, in collaboration with Winrock International Georgia. The training was delivered by Professor Gia Arabidze, Dean of the Energy and Telecommunications Faculty at GTU.

Mr. Arabidze discussed energy efficiency, and training was interactive. At the end of the session a competition was held for the training participants. The third-place winner was a student from the Kutaisi Public School #14, Ani Svanidze (tutor: Nino Cholokava). All participants received certificates and honorary medals.

Source: <http://agrokavkaz.ge>
Date: March 24, 2015
Title: Energy Efficiency is a Smart Choice - Youth Event in Tbilisi

On March 20th, 2015 members of civic clubs established under the program “Momavlis Taoba” (Future Generation) participated in the event “Energy Efficiency is a Smart Choice” organized by Winrock International Georgia.

The seminar was held at the Georgian Technical University within the framework of Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program in collaboration with PH International. This organization carries out the Momavlis Taoba (Future Generation) program through support from USAID.

Approximately 140 pupils from Tbilisi schools attended the seminar “How to Save Energy” and Professor Gia Arabidze, Dean of the Energy and Telecommunications Faculty at GTU discussed a variety of energy efficient technologies. These included saving energy, types of energy efficient

technologies, how to save energy in the home, energy audits, renewable energy, and the relationship between energy efficiency and climate change.

The event was highlighted by the environmental TV program for youth, “ECOVISION”.

The Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program is implemented by Winrock International Georgia with support from USAID, which supports Georgia’s efforts to mitigate climate change through energy efficiency and clean energy activities, and contributes to more responsible management and development of Georgia’s natural endowments.

Source:	Gtu.ge
Date:	March 20, 2015
Title:	Energy Efficiency is a Smart Choice - GTU Hosted an Event

The Georgian Technical University hosted an event entitled “Energy Efficiency-- a Smart Choice” organized by Winrock International Georgia. Around 200 students from Tbilisi schools, members of civic clubs established under the “Momavlis Taoba” (Future Generation) Program participated in the event.

The event was organized by Winrock International Georgia within the framework of the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program, and in collaboration with PH International which is implementing partner for “Momavlis Taoba” (Future Generation), and through support from USAID.

The informative seminar “How to Save Energy” was led by Professor Gia Arabidze, Dean of the Energy and Telecommunications Faculty at GTU, who discussed a variety of energy efficient technologies. These included saving energy, types of energy efficient technologies, how to save energy in the home, energy audits, renewable energy, and the relationship between energy efficiency and climate change.

The Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program is implemented by Winrock International Georgia with support from USAID; it supports Georgia’s efforts to mitigate climate change through energy efficiency and clean energy activities, and contributes to more responsible management and development of Georgia’s natural resources.

Source:	www.gtu.edu.ge
Date:	March 20, 2015
Title:	Energy Efficiency is a Smart Choice - Youth Event in Tbilisi

The Georgian Technical University hosted an event entitled “Energy Efficiency-- a Smart Choice” organized by Winrock International Georgia. Around 200 members of civic clubs established under the “Momavlis Taoba” (Future Generation) Program participated in the event.

The event was organized by Winrock International Georgia within the framework of the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program, and in collaboration with PH International which is implementing partner for “Momavlis Taoba” (Future Generation), and through support from USAID.

The informative seminar “How to Save Energy” was led by Professor Gia Arabidze, Dean of the Energy and Telecommunications Faculty at GTU, who discussed a variety of energy efficient technologies. These included saving energy, types of energy efficient technologies, how to save energy in the home, energy audits, renewable energy, and the relationship between energy efficiency and climate change.

The Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program is implemented by Winrock International Georgia with support from USAID. It supports Georgia’s efforts to mitigate climate change through energy efficiency and clean energy activities, and contributes to more responsible management and development of Georgia’s natural resources.



TV Channel:	Ertsulovneba
Date:	May 7, 2015
Title:	Afternoon Show <i>Shuadghe</i>

Host: We are back with interesting news. Our viewers have already learned about the program entitled Green Architecture, and they have a chance to watch it again on our channel. We hope that more people will re-think the topic of green architecture. As regards our topic of conversation, on May 8 and 9 ProCredit Bank will host the First International Forum *Green Days in Georgia* at its head office on Kazbegi Avenue. Let me introduce our guests:

Professor Tinatin Khismshiashvili, President of the Georgian Association of Landscape Architects, is author and host of the program Green Architecture. Thank you for coming! We also have Ms. Tamar Archuadze, Head of the Public Relations Department of Ertsulovneba and soon Producer of the program.

Tinatin Khimshiashvili: Thank you for the invitation! First of all thanks to your channel for supporting the production of this program. This is the first such forum in Georgia, and we have never had this kind of professionals invited to our country. They didn't know what is happening here with respect to green architecture and it reflects on our city--we have few green spaces. The program has caused public involvement and I have received phone calls asking to continue or repeat the program. It was because of this feedback that I dared to invite the world to let them speak with our Georgian counterparts.

Host: Which countries will be presented at the forum?

Tinatin Khimshiashvili: In Europe, Italy is the leader in Green Architecture. The Georgian State Academy of Art has invited an Italian architect Mario Bonicelli, and I hope that the famous British architect Jonas Brook visits us. Our Ukrainian partners are already here.

Host: You travel a lot and are on juries of contests around the world. How do you compare foreign countries with Georgia with regard to green architecture?

Tinatin Khimshiashvili: Unfortunately, we green architects are few and scattered, while our program for Green Architecture has brought us together. I received lots of messages saying our colleagues will come tomorrow, and many are interested in green architecture. Everybody wants to live in a healthy environment and to have European standard greening. I want to thank Tamar because she created this program with the support of the Archbishop. I am glad that Ertsulovneba became our partner and highlights green architecture.

Tamar Archuadze: Let me greet our viewers! Our program has moved to academia and we provide information support to this event. Our TV station always supports such programs—we expect this forum will be the occasion to share information that is almost not available in our public.

Host: How important is the involvement of the public in greening activities?

Tamar Archuadze: Each of us should take care of environment. Each of us should try to get more information and stay updated. For example, we have learned from Green Architecture that in a “green” hospital patients are discharged 3-5 days earlier than from ordinary buildings. Or, for

example, there is a lower risk of allergies in 'green' kindergartens. I hope that the forum will be highlighted by media and the public will get more information on this topic.

Tina Khimshiashvili: We are an association that knows what people are interested in; in other words, what the social order is and what the public wants to know about specific issues. That is the purpose of associations and forums. I want to take this possibility to thank the Georgian public for its interest in this topic and to mention the importance of the support from the US Agency for International Development.

Host: Thank you for coming! We wish you success! Please remind our viewers when the program is aired.

Tamar Archuadze: The TV Program Green Architecture is rerun on Saturdays at 23:15 and repeated during the whole week on TV Channel Ertsubneba.

Host: Watch the program every Saturday! Goodbye!



TV Channel: Ertsulovneba
Date: May 8, 2015
Title: Siaxleni

Green Days in Georgia – an international forum-- was held at the ProCredit Bank Head Office in Tbilisi with participants who discussed the topics of greening, energy efficiency and urban environment. Participants also discussed world experiences in these fields, and according to the forum organizers the purpose of the event was to develop landscape architecture and raise public awareness. The forum was held by the Georgian State Academy of Arts and the Georgian Association of Landscape Architects (GALA). The event was attended by experts, NGOs and institutions working in this field.

“We are having the first International Forum *Green Days in Georgia*. We, the Association of Landscape Architects decided to hold this forum and invite landscape architects, energy efficiency experts, green architects from over the world to show that these issues are important for Georgia.” – Tinatin Khimshiashvili, President of GALA.

“ProCredit Bank is hosting the Forum *Green Days in Georgia*. This forum is very important and a step forward for energy efficiency. We want to raise awareness about energy efficiency, and ProCredit Bank will support all such events in the future.” – Nato Bochorishvili, representative of ProCredit Bank



Source: <https://art.edu.ge>
Date: May 8, 2015
Title: International Forum *Green Days in Georgia*

Participants from Georgia, Italy, Russia, Ukraine, Poland and other countries, leading specialists in Landscape, Greening, Energy Efficiency, Architecture and related fields will participate in the Forum.

The aim is to share experiences with interested groups and familiarize them with ongoing processes in Georgia and Worldwide, on new developments in the field. The event will facilitate further relations with foreign colleagues and encourage future plans.

An Italian Landscape Architect Mr. Mario Bonichelli, special guest of the forum invited by the Tbilisi Academy of Arts, will share his experience with the audience and students in the two-day forum. He has implemented 500 projects worldwide, is author of articles and several books and is the founder of Architects Association in Bergamo in 2007, currently known as Bonichelli and Partners.

Among invited guests are:

Landscape Specialist – Elena Markitanova. She is author of several projects, and columnist in one of the popular *St. Petersburg Journal of Landscape*. She is involved in ongoing projects, activities and new initiatives. Along with Ukrainian and Russian invited guests, Elena will act as facilitator of a new topic – Modern Tendencies in the Fields of Landscape and Greening.

Dimitri Stelmakh – Director, LLC Gulfstream, Ukraine

Olena Kravecka- Founder of Garden Light Studio, Ukraine; Representative of Epstein-Design Outdoor lighting Germany, and Promosnastka Ltd/Ukraine

The first day of the forum will be held at the premises of ProCredit Bank. The whole day will be dedicated to presentations by our invited guests and discussions. The second day of the forum will be held on May 9 at the Academy of Arts and lead by Mario Bonichelli, who will deliver a Master Class followed by discussions. On the same day, several events will take place within the city. The forum is open to all interested individuals. Among partners and Supporters of the forum are: Triumph-Landscape, Tsavkisi Sakhli; USAID Georgia, Green Buildings Council-Georgia, Winrock International Georgia, Graphic Design; TV Channel Ertulovneba.

Source: <https://ambebi.ge>
Date: May 11, 2015
Title: ProCredit Bank Hosts an International Forum

On May 8 ProCredit Bank hosted the International Forum *Green Days in Georgia* at its Head Office, organized by the Georgian Association of Landscape Architects (GALA). GALA was founded in 2001 with to develop and popularize landscape architecture and design. The aim of the forum was to raise public awareness on landscape architecture, design, energy efficiency and greening. The forum hosted guests from Russia, Italy and Ukraine who shared their experience with Georgian colleagues. Among these were Elena Markitantova from Russia, Maksim Tsarev from Ukraine and Mario Bonicelli from Italy. A representative from the Eco Unit at ProCredit Bank spoke about the ongoing eco management within the bank. It is important for Georgia to hold such events and gain from foreign experience. Accordingly, ProCredit Bank will continue collaboration with such organizations.

Source: <https://ipn.ge>
Date: May 11, 2015
Title: ProCredit Bank Hosted an International Forum

On Friday, May 8, ProCredit Bank hosted an International Forum *Green Days in Georgia* at its Head Office organized by the Georgian Association of Landscape Architects (GALA), which was founded in 2001 with the purpose of developing and landscape architecture and design.

The aim of the forum was to raise public awareness for landscape architecture, design, energy efficiency and greening. The forum hosted guests from Russia, Italy and Ukraine who shared their experience with Georgian colleagues. Among these were Elena Markitantova from Russia, Maksim Tsarev from Ukraine and Mario Bonicelli from Italy. A representative from the Eco Unit at ProCredit Bank spoke about the ongoing eco management within the bank. It is important for Georgia to hold such events and gain from foreign experience. ProCredit Bank will continue collaboration with such organizations.

Source: <https://tamarasblogi.wordpress.com>
Date: May 12, 2015
Title: ENERGY EFFICIENCY IS A SMART CHOICE

On May 11th, I participated in the contest “Energy Efficiency is a Smart Choice”, held under the Momavlis Taoba (Future Generation) project and I won second place. Young people from different communities took part in the contest and I think such activities are important, and hope that similar contests or events take place in the future.

Source: CENN Network
Date: May 13, 2015
Title: ENERGY EFFICIENCY IS A SMART CHOICE: YOUTH ENERGY EFFICIENCY EVENT CONTINUES IN KAKHETI

EC-LEDS continues its Youth Energy Efficiency Events in the outlying regions of Georgia. On May 11 students from Telavi Municipality schools took part in the Youth Energy Efficiency Event at the Telavi Civic Engagement Center. The USAID-supported Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program empowers youth through training in energy efficiency and renewable energy technologies. The main objective was to involve youth in energy efficiency, thus contributing to climate change mitigation.

The students were selected from “Momavlis Taoba” (Future Generation) program partner schools from 9th to 11th grades of Telavi Municipality in collaboration with the Telavi Center of Education, Development and Employment. The mission of the center is to improve the social and economic conditions for youth, increase of their involvement in community activities and improvement of social and economic conditions in Kakheti region. The “Momavlis Taoba” (MT) program, funded by United States Agency for International Development (USAID), is being implemented in Georgia by PH International and is supported by the Ministry of Education and Science of Georgia (MES).

Students heard the presentation “How to Save Energy” given by the Dean of the Energy and Telecommunications Faculty at Georgian Technical University, Professor Gia Arabidze. Professor Arabidze told them about the importance of energy efficiency, how to save energy, what an energy

audit is, energy efficiency in the residential sector, energy efficient technologies, simple tips to save energy at home, energy efficient appliances, renewable energies, energy efficient/renewable energy projects implemented under donor support, as well as energy efficiency and climate change. The seminar was followed by a contest entitled “Energy Efficiency is a Smart Choice” to demonstrate the EE skills acquired at the seminar. Winners were awarded medals, and all students were given participation certificates.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia’s efforts to increase climate change mitigation through energy efficiency and clean energy activities, and enable more responsible management and development of Georgia’s natural resources.

03 [cenn] 'ENERGY EFFICIENCY IS A SMART CHOICE' YOUTH ENERGY EFFICIENCY EVENT CONTINUES IN KAKHETI - Google Chrome

<https://outlook.office365.com/owa/projection.aspx>

TakeNote Unsubscribe









**‘ენერგოეფექტურობა გონივრული არჩევანია’
ახალგაზრდული ღონისძიება გრძელდება კახეთში**

2015 წლის 11 მაისს ქალაქ თელავის მუნიციპალიტეტის სკოლების მოსწავლეებმა მონაწილეობა მიიღეს ახალგაზრდულ ღონისძიებაში „ენერგოეფექტურობა გონივრული არჩევანია“ ქ. თელავის დემოკრატიული ჩართულობის ცენტრში. აშშ-ის საერთაშორისო განვითარების სააგენტოს/USAID მიერ მხარდაჭერილი დასაღწმისიანი სტრატეგიების განვითარების შესაძლებლობათა გამოღერება (EC-LEDS) სუფთა ენერგიის პროგრამაზე ზეღს უწყობს ახალგაზრდობას საინფორმაციო სფეროს გზით უკეთ გაეცნოს ენერგოეფექტურ და განახლებადი ენერგიების ტექნოლოგიებს. ღონისძიების მიზანია ახალგაზრდობის ჩართვა ენერგოეფექტურ ღონისძიებებში, რაც წვლილს შეიტანს კლიმატური ცვლილების შერბილების პროცესში.

ღონისძიებაში მონაწილეობა მიიღეს თელავის მუნიციპალიტეტის სკოლების IX-XI კლასების მოსწავლეებმა. მათი შერჩევა მოხდა პროგრამის „მომავლის თაობა“ პარტნიორი სკოლებიდან. ღონისძიება ჩატარდა თელავის განათლების, განვითარების და დასაქმების ცენტრთან თანამშრომლობით, რომლის მიზანია ახალგაზრდების სოციალურ-ეკონომიკური მდგომარეობის გაუმჯობესება, სათემო ჩართულობის ამაღლება და მათი საზოგადოების სრულფასოვან წევრებად ჩამოყალიბება, კახეთის რეგიონში სოციალურ-ეკონომიკური მდგომარეობის გაუმჯობესება. აშშ-ის საერთაშორისო განვითარების სააგენტოს/USAID მიერ დაფინანსებულ პროგრამას „მომავლის თაობა“ განახორციელებს PH International საქართველოს განათლების და მეცნიერების სამინისტროს მხარდაჭერით.

ღონისძიების მსვლელობისას, მოსწავლეებმა მოისმინეს სემინარი „როგორ დავზოგოთ ენერგია“, რის შემდეგაც, მიღებული უნარების უკეთ გამოვლენის მიზნით, ჩატარდა კონკურსი „ენერგოეფექტურობა გონივრული არჩევანია“. სემინარს წარუძღვა საქართველოს ტექნიკური უნივერსიტეტის ენერგეტიკისა და ტელეკომუნიკაციის ფაკულტეტის დეკანი, პროფესორი ვია არაბიძე. პროფესორმა არაბიძემ ისაუბრა

**‘ENERGY EFFICIENCY IS A SMART CHOICE’
YOUTH ENERGY EFFICIENCY EVENT CONTINUES IN KAKHETI**

EC-LEDS continues Youth Energy Efficiency Events in the regions of Georgia. On May 11th, 2015 students from Telavi Municipality schools took part in the Youth Energy Efficiency Event at Telavi Civic Engagement Center. The USAID-supported Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program empowers youth through training on energy efficiency and renewable energy technologies. The main objective is to involve youth in energy efficiency, contributing to climate change mitigation.

The students were selected from “Mamavlis Taoba” (Future Generation) program partner schools from 9th to 11th grades of Telavi Municipality in collaboration with the Telavi Center of Education, Development and Employment. The mission of the center is to improve the social and economic conditions for youth, increase of their involvement in community activities and improvement of social and economic conditions in Kakheti region. The “Mamavlis Taoba” (MT) program, funded by United States Agency for International Development (USAID), is being implemented in Georgia by PH International and is supported by the Ministry of Education and Science of Georgia (MES).

During the event, students were given a presentation “How to Save Energy” by Dean of Energy and Telecommunications Faculty at Georgian Technical University, Professor Gia Arabidze. Professor Arabidze spoke about the importance of energy efficiency, ways of saving energy, energy audit, energy efficiency in residential sector, energy efficient technologies, simple tips to save energy at home, energy efficient appliances, renewable energies, energy efficient/renewable energy projects implemented under donor support, energy efficiency and climate change.

The seminar was followed by a contest “Energy Efficiency is A Smart Choice” to demonstrate the EE skills acquired at the seminar. The winners were awarded medals, and all students were given participation certificates.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia’s

TV Channel: Rioni
Date: June 18, 2015
Program: News of the Day

The Akaki Tsereteli State University in Kutaisi hosted the Third Annual International Conference entitled “Sustainable Energy: Challenges and Development Prospects”. Along with students and professors, the conference was attended by guests from Tbilisi.

“This event, as well as those during the whole month, is dedicated to popularization of sustainable energy issues. The EU Commission has announced a cycle of energy days, and today’s event is an integral part of this cycle. Our scholars and professors hold lively discussions on technical and technological issues that will contribute to sustainable energy development in Georgia. The subject of sustainable energy covers renewable energy and energy efficient technologies that will not reduce the comfort of our citizens yet will minimize damage to the environment, said Giorgi Abulashvili, Director of the Energy Efficiency Center of Georgia.

“Today not enough attention is paid to energy efficiency issues in Georgia, and production-related costs are higher than in Europe. Energy saving and energy efficiency play an important role in the production cycle and according to the EU initiative energy savings must increase two-fold around the world within 15-30 years. Georgia must join this worldwide process,” said Merab Imeradze, Deputy Rector of Akaki Tsereteli State University.

“International conferences on energy are rare in Georgia, yet Kutaisi is an exception. This city is hosting the Third Annual International conference. The Editorial committee of this conference unites well-known scholars from Ukraine, USA and Austria, and our doctoral students have a very good opportunity to present pertinent topics during our conference. Step by step they will be prepared for their final goal, to obtain a Doctoral degree,” said Gia Arabidze, Dean of the Energy and Telecommunications Faculty, Georgian State University.



TV Channel: Rioni
Date: June 18, 2015
Program: News of the Day

A presentation of the Energy Efficiency and Renewable Energy Project took place at the Kutaisi Torpedo Sports Base during Sustainable Energy Day in Kutaisi. Specialists conducted an audit of the sports center, with the aim to install solar outdoor lighting and solar water heating systems.

“Within this project we plan to install a solar outdoor lighting system and solar water heating system for our football players, which will significantly reduce our electricity expenses. At the same time it will help the Kutaisi Municipality fulfill its commitments under the Covenant of Mayors to reduce CO₂ emissions by 20%. Today specialists from our Center began the energy audit of the buildings, and thus certain parameters for our future activities will be clarified,” said Giorgi Abulashvili, Director of the Energy Efficiency Center Georgia.

“Under the grant component of our project, the Energy Efficiency Center was selected to implement the Energy Efficiency and Renewable Energy project at the Kutaisi Torpedo Sports Base. This project will introduce energy efficient technologies, energy savings and improved living conditions. Water heating systems working on solar energy will be installed on the site and the roof will be insulated to avoid heat loss from the building. In this project we are involved as part of a USAID project. BP is also participating.”- Giorgi Giorgobiani, EC-LEDS Acting DCOP, Winrock Georgia

With the support of this project local self-government will meet commitments made through the Covenant of Mayors. “Kutaisi has made the commitment to reduce CO₂ emissions by 20% before 2020. Several activities were planned and one is coming to an end—equipping the Torpedo administrative building with an energy efficient water heating system. Other projects have been submitted to the EU Commission that consider the larger scale projects, including the installation of an ecological lighting system in the city, creating green areas within the urban territory and other projects to reduce emissions in the city” - Kote Kavtaradze, Kutaisi Vice Mayor.

The Torpedo Sports Base administration looks on the renewable energy projects favorably. “First of all, I want to thank the Energy Efficiency Center for selecting our Base to implement this project. This decision is very important for us, considering the situation that Kutaisi Torpedo Sports now faces. Benefits from this project will mean we can significantly reduce expenses on gas and electricity, and if the project is completed we will access energy-renewable resources that will help the Torpedo Sports administration to improve conditions, which will also improve sport results. I would like to again thank all parties involved in this project!”- Ramaz Chkhikvadze, Torpedo Sports Base Manager.

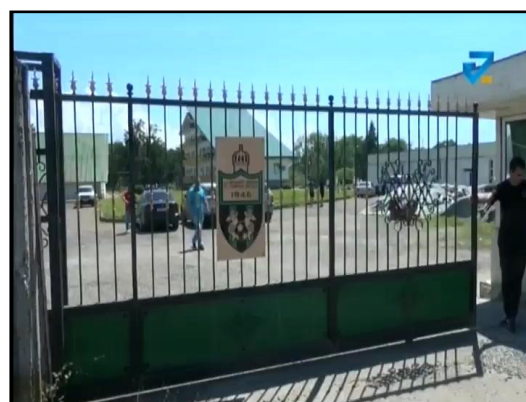
A friendly match was held today between Torpedo Sports Club members and young players. An Energy Efficiency Center staff member shared information about the project to participants of the game and awarded certificates.

Source: Mega TV
Date: May 18, 2015
Program: Headlines

The introduction of renewable and energy efficient technologies took place today at the Kutaisi Torpedo Sports Base. Plans include the installation of solar water heating systems, photo-voltaic convertors, and thermal insulation for the roof of the Center. The project is supported by the Energy Efficiency Center and USAID.

“The City of Kutaisi is committed to reducing CO₂ emissions over the next two years. A pilot project is being carried out to install an energy efficient heating system in the Torpedo administrative building and on the base itself. Besides this project we are cooperating closely with the EU to implement an efficient outdoor lighting system for the city and to green urban areas. With these and several other projects we hope environmental conditions in Kutaisi will be improved.”- Kote Kavtaradze, Kutaisi Vice Mayor

“The main goal of the project is to introduce energy efficient technologies on the Torpedo Sports training base and thus save energy and improve living and training conditions for youth and professional players. We have allocated USD 50,000 for this project after it was selected by the EEC and the Municipality. This project will demonstrate the effectiveness of these technologies in Georgia in order to better promote them.”- Giorgi Giorgobiani, EC-LEDs Acting Deputy COP, Winrock Georgia.

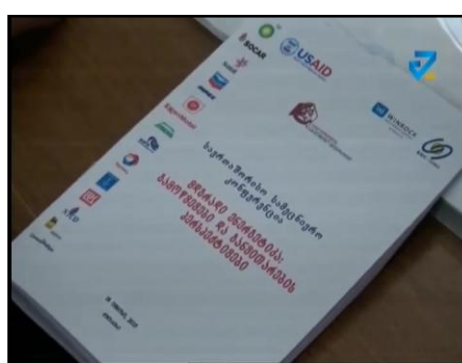


Source: MegaTV
Date: June 19, 2015
Program: Headlines

A scientific conference entitled “Sustainable Energy: Challenges and Development Prospects” opened today at Akaki Tsereteli State University in Kutaisi, with the participation of university professors, students and representatives of private and business sectors. The subject of the conference included challenges for the fields of energy efficiency, renewable energy and their use in Georgia. Discussions were carried out within six thematic working groups, within the framework of Sustainable Energy Week. The conference was supported by the Energy Efficiency Center of Georgia (Tbilisi).

“According to the EU Commission, the month of June is dedicated to Energy Days, and all countries and cities that have joined the Covenant of Mayors or are willing to be associated with the EU Commission and EU itself, implement a series of activities in order to popularize modern technologies that have only a minor impact on the environment. Georgia--and particularly Kutaisi--is a part of this process, and today Kutaisi hosts Energy Day.”-Giorgi Abulashvili, Director of the Energy Efficiency Center.

“Members of the academic world and the business sectors have been actively involved in this conference, and particularly our university, which is represented here by professors and students. This conference, dedicated to sustainable energy development opportunities and prospects in Georgia, is a very interesting possibility to get up-to-date information for our era and the challenges we face.”- Giorgi Ghavtadze, Rector of Akaki Tsereteli State University, Kutaisi.



Source: [News Press](#)
Date: June 19, 2015
Title: Energy Efficient Heating System Will Be installed at Torpedo Sport Base

The Energy Efficiency and Renewable Energy project was presented during the Sustainable Energy Day in Kutaisi, where the Torpedo Sports Base hosted an amateur game between Torpedo club players and local youth. The installation of eco-efficient systems at the Sports Base began today.

“A number of clean energy technologies will be installed on the Torpedo Sports Base, which will mean they can reduce their energy expenses. Today we are announcing the beginning of this project, financed by the USAID project Enhancing Capacity for Low Emission Development Strategies (EC-LEDs) Clean Energy Program”, said Giorgi Abulashvili, Director of the Energy Efficiency Center and Local Representative of the EU Covenant of Mayors, of which Kutaisi is a member city.

“The Covenant of Mayors is a large-scale EU initiative uniting local and regional governments that voluntarily make a commitment to increase energy efficient and renewable energy resources within their jurisdiction. Signatories to the Covenant have a goal to reduce GHG emissions by 20% by the year 2020, thus contributing to sustainable and green economic development and the improvement of living conditions. One of the projects is to install an energy efficient heating system at the Kutaisi Torpedo Sports Base. In addition to this we actively cooperate with the EU in Brussels on other projects, such as an ecological public lighting system and the creation of green areas within the city.”- Kutaisi Vice Mayor, Kote Kavtaradze. The project should be completed within three weeks at the Sports Base, and it should be fully operational for next year.

TV Channel: Imedi
Date: June 22, 2015
Program: Kronika

Sustainable Energy Days 2015, a conference organized by Tbilisi City Hall opened today to discuss the Sustainable Energy Action Plan, prepared within the framework of the EU programme, Covenant of Mayors, as part of EU Week. This and other projects related to the city's Sustainable Energy Action Plan were discussed. The aim of the project is to inform the public about the rational use of energy.

“This direction is very important--ensuring energy efficient technologies that results in the reduction of CO₂ emissions will create a better living environment. I think that Tbilisi will become a role model for others.”-Irakli Lekvinidze, Vice Mayor, Tbilisi.

“The Action Plan includes a complete inventory of emissions and hazardous gases as well as the identification of measures to mitigate climate change.”- Inga Pkhaladze, EC-LEDS Acting COP.



Source: <http://new.tbilisi.gov.ge/news/2705>
Date: June 22, 2015
Title: Conference “Sustainable Energy Days 2015” opens in Tbilisi

The Rooms Hotel in Tbilisi hosted the Sustainable Energy Days 2015 Conference, organized by the Tbilisi City Hall. The event was opened by Vice Tbilisi Mayor Irakli Lekvinidze. He noted that the EU initiative was very important, “to ensure the development of energy efficient technologies that will result in the reduction of CO₂ emissions. This will eventually create a better living environment. I think, with this regard, Tbilisi will become a role model for other cities.”-Irakli Lekvinidze, Tbilisi Vice Mayor.

The conference was attended by members of academia, energy and environment protection agencies, NGOs, the private sector and local self-governance associations. Participants discussed the Sustainable Energy Action Plan (SEAP) prepared under the EU Covenant of Mayors framework, the nationwide expansion of the Covenant’s activities, and sustainable energy projects now in progress.

Since signing the CoM, Tbilisi City Hall will continue to conduct an annual Sustainable Energy Week. The conference is a source of public information on the advantages and opportunities of rational energy use.

Source: news.ge
Date: June 22, 2015
Title: “Sustainable Energy Days 2015” – The Conference opened in Tbilisi

Rooms Hotel Tbilisi hosted a conference, Sustainable Energy Day 2015, organized by Tbilisi City Hall. The event was opened by Vice Tbilisi Mayor Mr. Irakli Lekvinidze. According to the Vice Mayor, this Conference is conducted within the EU-initiated Sustainable Energy Week. He noted that the EU initiative was very important, “to ensure the development of energy efficient technologies that will result in the reduction of CO₂ emissions. This will eventually create a better living environment. I think, with this regard, Tbilisi will become a role model for other cities.”-Irakli Lekvinidze, Tbilisi Vice Mayor.

The conference was attended by members of academia, energy and environment protection agencies, NGOs, the private sector and local self-governance associations. Participants discussed the Sustainable Energy Action Plan (SEAP) prepared under the EU Covenant of Mayors framework, the nationwide expansion of the Covenant’s activities, and sustainable energy projects now in progress. Since signing the CoM, Tbilisi City Hall will continue to conduct an annual Sustainable Energy Week. The conference is a source of public information on the advantages and opportunities of rational energy use.

Source: ipress.ge
Date: June 22, 2015
Title: “Sustainable Energy Days- 2015” – Conference is opened in Tbilisi

The Rooms Hotel in Tbilisi hosted the Sustainable Energy Days 2015 Conference, organized by the Tbilisi City Hall. The event was opened by Vice Tbilisi Mayor Irakli Lekvinidze. He noted that the EU initiative was very important, “to ensure the development of energy efficient technologies that will result in the reduction of CO₂ emissions. This will eventually create a better living environment. I think, with this regard, Tbilisi will become a role model for other cities.”-Irakli Lekvinidze, Tbilisi Vice Mayor.

The conference was attended by members of academia, energy and environment protection agencies, NGOs, the private sector and local self-governance associations. Participants discussed the

Sustainable Energy Action Plan (SEAP) prepared under the EU Covenant of Mayors framework, the nationwide expansion of the Covenant's activities, and sustainable energy projects now in progress.

Since signing the CoM, Tbilisi City Hall will continue to conduct an annual Sustainable Energy Week. The conference is a source of public information on the advantages and opportunities of rational energy use.

Source:	CENN.org
Date:	June 30, 2015
Title:	Students Architectural Exhibition and Awards Ceremony

Organized by Energy Efficiency Centre Georgia, on June 30, 2015, an exhibition and award ceremony for the designs from a student architectural competition took place at Tbilisi City Hall. This was the fourth year of this annual contest, whose goal was to identify architectural designs that best consider principles of sustainable development and green architecture.

The contest was supported by Tbilisi City Hall, the Union of Architects of Georgia, Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program, The Architecture, Urban Planning and Design Faculty of Georgian Technical University, the Tbilisi State Academy of Arts and Ilya State University.

Since 2010, the Energy Efficiency Center has organized Georgian Sustainable Energy Week each year. An exhibition was organized within the framework of Sustainable Energy Week-2015. The event aims to promote clean energy technologies by organizing conferences, exhibitions, sports contests and cultural and recreational activities. The competition and the award ceremony were held within the framework of a BP-Georgia-supported program "Renewable Energy and New Energy Efficiency Project".

Source:	esinfo.ge
Date:	June 30, 2015
Title:	Today a Technological Exhibition will open at Tbilisi City Hall

Tbilisi City Hall will host an exhibition organized within "Sustainable Energy Week". The Opening ceremony will be attended by the Vice Mayor of Tbilisi, Irakli Lekvinadze and the exhibition will open at 11:00, June 30th. Energy efficient technologies produced by Georgian manufacturers and suppliers will be presented at the Technological Exhibition, open to the public.

Also today, on the first floor of Tbilisi City Hall the award ceremony for Student Architectural Projects winners will take place. This contest selects the best architectural projects by students that reflect sustainable development and the principles of "Green Architecture". The contest was supported by the Tbilisi City Hall, the Georgian Union of Architects, the US Agency for International Development (USAID) through Winrock's Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program, the Architecture, Urban and Design faculty of Georgian Technical University, the Tbilisi Academy of Arts and Ilia State University.

"Sustainable Energy Week" in Georgia has taken place since 2009. This year the contest and ceremony were sponsored by BP-Georgia and its partners who operate gas and oil businesses, to promote the Renewable Energy and Energy Efficiency framework.

Source: gdepress.ge
Date: June 30, 2015
Title: Technological Exhibition will be opened in Tbilisi City Hall

Today on the second floor of the Tbilisi City Hall, a Technological Exhibition will open, within the European Sustainable Energy Week framework. The opening ceremony will be headed by the Vice Mayor of Tbilisi, Mr. Irakli Lekvinadze. Energy Efficient technologies produced by Georgian manufacturers and suppliers will be shown at this public exhibition.

On the first floor, at 17:00 pm, the Student Architectural Projects winners' award ceremony will take place. According to information from Ministry of Economy and Sustainable Development, the aim of the contest was to select the architectural projects that best reflect the principles of sustainable development and 'Green' architecture.

"Sustainable Energy Week" in Georgia has taken place since 2009 and within this format different information and cultural-sports activities take place to promote clean energy transport and technologies. This year the contest and events were held within the new Renewable Energy and Energy Efficiency Project framework.

Source: ipn.ge
Date: June 29, 2015
Title: Technological Exhibition will open under Sustainable Energy Days

Tomorrow, on the second floor of the Tbilisi City Hall, a Technological Exhibition will open within the European Sustainable Energy Week framework. The opening ceremony will be headed by the Vice Mayor of Tbilisi, Mr. Irakli Lekvinadze. Energy Efficient technologies produced by Georgian manufacturers and suppliers will be shown at this public exhibition.

On the same day, on the first floor at 17:00 pm, the Student Architectural projects winners' award ceremony will take place, attended by Vice Mayor Irakli Lekvinadze. According to information from the Ministry of Economy and Sustainable Development, the aim of the contest was to select the architectural projects that best reflect the principles of sustainable development and 'Green' architecture.

The contest was supported by the Tbilisi City Hall, the Georgian Union of Architects, the US Agency for International Development (USAID) through Winrock's Enhancing Capacity for Low Emission Development Strategies (EC-LEDs) Clean Energy Program, the Architecture, Urban and Design faculty of Georgian Technical University, the Tbilisi Academy of Arts and Ilia State University.

"Sustainable Energy Week" in Georgia has taken place since 2009. This year the contest and ceremony were sponsored by BP-Georgia and its partners who operate gas and oil businesses, to promote the Renewable Energy and Energy Efficiency framework.

Source: ipn.ge
Date: June 30, 2015
Title: Sustainable Energy Day in Tbilisi

Beginning on June 30, Tbilisi will host Sustainable Energy Week, with the following activities planned for the week:

On June 30, at 11:00 am, on the second floor of Tbilisi City Hall, a Technological Exhibition will open, until 17:00 pm. Address: 7 Zh. Shartava Street. The Exhibition will be opened by Tbilisi City Vice Mayor Irakli Lekvinadze and supported by the Energy Efficiency Center- Georgia with support from Tbilisi City Hall. Energy Efficient technologies produced by Georgian manufacturers and suppliers will be on show at to the public.

Also on June 30, at 17:00 pm, a Student Architectural Project winners' award ceremony will take place, attended by Vice Mayor Irakli Lekvinadze. The aim of the contest was to create the best architectural projects that maximize the principles of sustainable development and Green Architecture principles.

The contest was supported by the Tbilisi City Hall, the Georgian Union of Architects, the US Agency for International Development (USAID) through Winrock's Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program, the Architecture, Urban and Design faculty of Georgian Technical University, the Tbilisi Academy of Arts and Ilia State University.

"Sustainable Energy Week" in Georgia has taken place since 2009. This year the contest and ceremony were sponsored by BP-Georgia and its partners who operate gas and oil businesses, to promote the Renewable Energy and Energy Efficiency framework.



Source: Zugdidi City Official Webpage
Date: August 19, 2015
Title: Building Energy Labeling by DISPLAY Discussed at Zugdidi City Hall

Members of Green Building Council Georgia (GBC-Ge) discussed Building Energy Labeling by DISPLAY in the Municipality of Zugdidi. The meeting was conducted under the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program and hosted by the Department of Economic and Infrastructural Development at Zugdidi City hall. During the meetings, the GBC-Ge and Municipal employees prepared DISPLAY labeling on the basis of information about municipal buildings, collected in advance by the Municipality. Both parties had seen the municipal buildings in Zugdidi.

DISPLAY is a voluntary system that enables the owners and managers of buildings, and local or national authorities, to publicize the energy and environmental performance of their private or public buildings. DISPLAY provides information on resource use performance-- such as water consumption and stimulates energy-saving measures by showing yearly progress.

DISPLAY is also a building data management tool used globally by 400 local authorities, 11,500 buildings, 27 countries and more than 20 associated partners, including the European Commission. It has been adapted to Georgian climate data and language. The Zugdidi City Hall cooperates regularly with Winrock International Georgia to implement the DISPLAY tool.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy activities, and enables more responsible management and development of Georgia's natural resources.



Source:	Zugdidi City Hall Facebook Page
Date:	August 19, 2015
Title:	Building Energy Labeling by Display Discussed in Zugdidi City Hall

DISPLAY is a voluntary system that enables building owners/managers, as well as local or state authorities to publicize the energy and environmental performance of their private or public buildings. DISPLAY provides information about energy performance such as water consumption and encourages energy savings, showing progress through a yearly update.

DISPLAY is a building data management tool for 400 local authorities, 11,500 buildings, 27 countries and more than 20 associated partners, including the European Commission. It is adapted to Georgian climate data and language. Zugdidi City Hall actively cooperates with Winrock International Georgia in implementation of the project.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy activities, and enables more responsible management and development of Georgia's natural resources.

Source: Acne.ge
Date: August 19, 2015
Title: Building Energy Labeling by Display Discussed in Zugdidi City Hall

Members of the Green Building Council Georgia (GBC-Ge) discussed Building Energy Labeling by DISPLAY in the Municipality of Zugdidi. The meeting was conducted under the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program and hosted by the Department of Economic and Infrastructural Development at Zugdidi City hall. During the meetings, the GBC-Ge and Municipal employees prepared DISPLAY labeling on the basis of information collected on municipal buildings by the Municipality. Both parties had seen the municipal buildings in Zugdidi.

DISPLAY is a voluntary system that enables the owners and managers of buildings, and local or national authorities, to publicize the energy and environmental performance of their private or public buildings. DISPLAY provides information on resource use performance-- such as water consumption-- and encourages energy-saving measures by showing yearly progress.

DISPLAY is also a building data management tool used globally by 400 local authorities, 11,500 buildings, 27 countries and more than 20 associated partners, including the European Commission. It has been adapted to Georgian climate data and language. The Zugdidi City Hall cooperates regularly with Winrock International Georgia to implement the DISPLAY tool.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy activities, and enables more responsible management and development of Georgia's natural resources.



Source:	smog.ge
Date:	August 19, 2015
Title:	Building Energy Labeling by Display Discussed in Zugdidi City Hall

Members of the Green Building Council Georgia (GBC-Ge) discussed Building Energy Labeling by DISPLAY in the Municipality of Zugdidi. The meeting was conducted under the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program and hosted by the Department of Economic and Infrastructural Development at Zugdidi City hall. During the meetings, the GBC-Ge and Municipal employees prepared DISPLAY labeling on the basis of information about municipal buildings, collected in advance by the Municipality. Both parties had seen the municipal buildings in Zugdidi.

DISPLAY is a voluntary system that enables the owners and managers of buildings, and local or national authorities, to publicize the energy and environmental performance of their private or public buildings. DISPLAY provides information on resource use performance-- such as water consumption and stimulates energy-saving measures by showing yearly progress.

DISPLAY is a building data management tool used globally by 400 local authorities, 11,500 buildings, 27 countries and more than 20 associated partners, including the European Commission. It has now been adapted to Georgian climate data and language. The Zugdidi City Hall cooperates regularly with Winrock International Georgia to implement the DISPLAY tool.

Source: Prof News
Date: August 20, 2015
Title: Building Energy Labeling by Display in Kutaisi Municipality

The Green Building Council- Georgia is conducting information meetings about Energy Labeling for Buildings by DISPLAY for Georgian cities that are signatories to Covenant of Mayors, and have prepared or are in the process of preparing Sustainable Energy Action Plans (SEAP). Information meetings are conducted under the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program. During the meetings Green Building Council Georgia and Municipal representatives demonstrate DISPLAY labeling on the basis of information collected in advance for the municipal buildings suggested by the Municipalities.

On August 17th the GBC-Ge experts met members of the Rustavi Municipality. A similar meeting was held on August 18th in the Municipality of Kutaisi, where 12 buildings have been labeled. Further meetings will take place in Zugdidi and Batumi on August 19th and 20th respectively.

DISPLAY is a voluntary system that enables the owners and managers of buildings, and local or national authorities, to publicize the energy and environmental performance of their private or public buildings. DISPLAY provides information on resource use performance-- such as water consumption, and encourages energy-saving measures by showing yearly progress.

DISPLAY is a building data management tool used globally by 400 local authorities, 11,500 buildings, 27 countries and more than 20 associated partners, including the European Commission. It has now been adapted to Georgian climate data and language.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy activities, and enables more responsible management and development of Georgia's natural resources.



Source: CENN Network
Date: August 20, 2015
Title: Building Energy Labeling by Display in Georgian Municipalities

The Green Building Council -Georgia will conduct information meetings about DISPLAY, a system of Energy Labeling for Buildings, for Georgian cities that are signatories to Covenant of Mayors and have prepared or are in the process of preparation of Sustainable Energy Action Plans (SEAP). Information meetings are held by the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program. During the meetings the Green Building Council Georgia and Municipal representatives will prepare DISPLAY labeling based on information collected in advance for the municipal buildings suggested by the Municipalities.

On August 17, GBC-Ge experts met representatives of the Rustavi Municipality and similarly, on August 18th the Municipality of Kutaisi, where 12 buildings were labeled with this tool. Further meetings will take place in Zugdidi and Batumi on August 19th and 20th respectively.

DISPLAY is a voluntary system that enables the owners and managers of buildings, and local or national authorities, to publicize the energy and environmental performance of their private or public buildings. DISPLAY provides information on resource use performance-- such as water consumption and stimulates energy-saving measures by showing yearly progress.

DISPLAY is a building data management tool used globally by 400 local authorities, 11,500 buildings, 27 countries and more than 20 associated partners, including the European Commission. It has been adapted to Georgian climate data and language.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy activities, and enables more responsible management and development of Georgia's natural resources.





შენიშვნების ენერგომარკირება „დისპლეის“ სისტემით საქართველოს მუნიციპალიტეტებში

შეგანგ მშენებლობის საბჭო საქართველომ დაიწყო საინფორმაციო შეხვედრები თემაზე „შენიშვნების ენერგომარკირება „დისპლეის“ სისტემით“. საინფორმაციო შეხვედრები ჩატარდება ქვეყნის იმ მუნიციპალიტეტებში, რომლებმაც ხელი მოაწერეს მერთა შეთანხმებას და შეიმუშავეს ენერგეტიკის მდგრადი განვითარების სამოქმედო გეგმა ან გეგმის შემუშავების პროცესში არიან. საინფორმაციო შეხვედრები ტარდება „დაბალემისიონიზებული განვითარების შესაძლებლობათა გაძლიერება (EC-LEDS) სუფთა ენერგიის პროგრამის“ ფარგლებში. შეხვედრისას შეგანგ მშენებლობის საბჭო საქართველოს ექსპერტები და მუნიციპალიტეტების

DISPLAY System Energy Labeling in Georgian Municipalities

Green Building Council Georgia will conduct informational meetings dedicated to Building Energy Labeling through DISPLAY systems for the cities that are signatories to Covenant of Mayors and have prepared or are in the process of preparation of Sustainable Energy Action Plans (SEAP). Information meetings are conducted under the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program. During the meetings, Green Building Council Georgia and Municipal representatives will prepare DISPLAY labeling based on information collected in advance for the municipal buildings suggested by the Municipalities.

Source: CENN Network
Date: October 1, 2015
Title: Information Session for PWD in Tbilisi

EC-LEDS Clean Energy program held an information session entitled “Energy Efficiency Is A Smart Choice” for people with disabilities (PWD) in Tbilisi on September 30th. The event aims to empower PWDs through education on energy efficiency and provide them with equal opportunities to enjoy the benefits of energy efficient behavior. The ultimate goal is to involve PWDs in energy efficiency, contributing to climate change mitigation.

During the event, participants were given a presentation “How to Save Energy”. The information session was conducted by Dean of Energy and Telecommunications Faculty at Georgian Technical University, Professor Gia Arabidze. Professor Arabidze discussed the importance of energy efficiency, ways of saving energy, energy audit, energy efficiency in residential sector, energy efficient technologies, simple tips to save energy at home, energy efficient appliances, renewable energies, energy efficient/renewable energy projects implemented under donor support, energy efficiency and climate change.

The event took place at the office of Association Anika. The goal of the Association is to protect the rights of youth with disabilities and support their complete integration, support complete and harmonious development of children with disabilities, promote accessible education, art and sports activities, support vocational education and employment; protect the rights of mothers (trustees/guardians) of children with disabilities and support their employment and economic empowerment.

The EC-LEDS Clean Energy Program is supported by USAID and implemented by Winrock International Georgia. Through this project, USAID supports Georgia’s efforts to increase climate change mitigation through energy efficiency and clean energy activities, and enable more responsible management and development of Georgia’s natural endowments.



USAID
FROM THE AMERICAN PEOPLE



WINROCK
INTERNATIONAL
GEORGIA







„ენერგოეფექტურობა გონივრული პრევენცია“

საინფორმაციო სესიები შეზღუდული შესაძლებლობების მქონე პირებისათვის თბილისში

დამალმისებრი სტრატეგიების განვითარების შესაძლებლობათა გაძლიერება/შეზღუდვა ენერგიის პროგრამის პარტნიორი სესია სახელწოდებით „ენერგოეფექტურობა გონივრული პრევენცია“ შეზღუდული შესაძლებლობების მქონე პირებისათვის ქ. თბილისში 30 სექტემბერს. აღნიშნული ღონისძიების მიზანია PWD პირების ცნობიერების ამაღლება ენერგოეფექტურობის საკითხში იმისათვის, რომ მათ თანაბარ პირობებში ისარგებლონ ენერგოეფექტური ქვეყნის შედგენად მიღებული სარგებლობით. ამ ინიციატივის მომავალი მუშაობა PWD პირების ჩართვა ენერგოეფექტურ ღონისძიებებში, რაც კლიმატური ცვლილების შეზღუდვის პროცესს შეუწყობს ხელს.

“Energy Efficiency is a Smart Choice”

Information Sessions for PWD in Tbilisi

EC-LEDS Clean Energy program held an information session entitled “Energy Efficiency Is A Smart Choice” for people with disabilities (PWD) in Tbilisi on September 30th. The event aims to empower PWDs through education on energy efficiency and provide them with equal opportunities to enjoy the benefits of energy efficient behavior. The ultimate goal is to involve PWDs in energy efficiency, contributing to climate change mitigation.

During the event, participants were given a presentation “How to Save Energy”. The information session was conducted by Dean of Energy and Telecommunications Faculty at Georgian Technical University, Professor Gia Arabidze. Professor Arabidze discussed